JPRS 82805

4 February 1983

Worldwide Report

NUCLEAR DEVELOPMENT AND PROLIFERATION

No. 177

FBIS FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

JPRS 82805

4 February 1983

WORLDWIDE REPORT

NUCLEAR DEVELOPMENT AND PROLIFERATION

No. 177

CONTENTS

WORLDWIDE AFFAIRS

Finnish-Soviet Nuclear Plant Project for Yugoslavia Advances
(HELSINGIN SANOMAT, 6 Jan 83) 1

ASIA

AUSTRALIA

Northern Territory Minister Leads Bid for Uranium Plant
(Errol Simper; THE AUSTRALIAN, various dates) 3

Slap at South, Queensland
Enrichment Group's Position

Government Said To Use Public Funds To Stifle Nuclear Fears
(THE COURIER-MAIL, 15 Nov 82) 5

EAST EUROPE

CZECHOSLOVAKIA

Construction of CSSR Nuclear Plants Discussed
(Jan Riska; NOVE SLOVO, 11 Nov 82) 6

Nuclear Power Station Construction Prepares for Winter
(Dusan Stancek; PRAVDA, 28 Oct 82) 13

LATIN AMERICA

BRAZIL

New Law on Federal Control of Nuclear Activities Blasted
(O ESTADO DE SAO PAULO, various dates) 17

Decree Law 1,982
Ramifications of New Law
Physicist Speaks

MEXICO

Costa Alonso on Nuclear Goals, Reserves, Technology
(Mario Ruiz Redondo; EXCELSIOR, various dates) 22

NEAR EAST/SOUTH ASIA

EGYPT

Nuclear Energy Plans With France
(AN-NAHAR ARAB REPORT & MEMO, 20 Dec 82) 31

INDIA

Visiting IAEA Chief Holds Delhi Press Conference
(THE SUNDAY STATESMAN, 19 Dec 82) 33

'TIMES OF INDIA' Interviews IAEA Chief
(S. Balakrishnan; THE TIMES OF INDIA, 13 Dec 82) 35

Attractive Terms of Soviet Nuclear Offer Told
(G. K. Reddy; THE HINDU, 13 Dec 82) 36

DAE Plans To Set Up Eight More Nuclear Plants Told
(PATRIOT, 20 Dec 82) 38

New Heavy Water Production Methods Under Study
(PATRIOT, 18 Dec 82) 39

Work Begins on Reprocessing Facility at Kalpakkan
(PATRIOT, 11 Dec 82) 40

'Sources' Give Clarification on Tarapur Agreement
(PATRIOT, 10 Dec 82) 41

ISRAEL

Eytan Warns of Poor Defenses Against Nuclear Attack
(MA'ARIV, 5 Dec 82) 42

PAKISTAN

Pakistan Paper on Uranium Finds, U.S. Experts
(Editorial; JASARAT, 13 Jan 83) 44

Chashma Nuclear Power Plant Planned, American Opposition Criticized
(NAWA-I-WAQT, 6 Dec 82) 46

Country's Policy, Stand on Nuclear Program Supported
(Editorial; THE MUSLIM, 21 Dec 82) 48

Atomic Energy Commission To Provide Technology to Private Sector
(DAWN, 20 Dec 82) 50

SUB-SAHARAN AFRICA

SOUTH AFRICA

Worries About Safety of Koeberg Plant Voiced
(Editorial; THE STAR, 21 Dec 82) 51

Briefs
Koeberg Security 52

WEST EUROPE

INTERNATIONAL AFFAIRS

French, Belgian, Spanish Accord on EURODIF Enrichment Plant
(JOURNAL OFFICIEL DE LA REPUBLIQUE FRANCAISE, 13 Oct 82) . 53

FINNISH-SOVIET NUCLEAR PLANT PROJECT FOR YUGOSLAVIA ADVANCES

Helsinki HELSINGIN SANOMAT in Finnish 6 Jan 83 p 22

[Article: "Imatra Power Wants To Continue Nuclear Power Cooperation"]

[Text] Lovisa--The warranty period ran out on Lovisa 2 on Wednesday and the plant was transferred totally to the Finns. The conclusion of the warranty period also means in principle that the period of cooperation between the Finns and the Soviets has come to a conclusion at Lovisa.

However, cooperation will continue inasmuch as a decision is made to build a new nuclear power plant in Finland together with the Soviet Union.

The supplier of the plants at Lovisa, Atomenergoexport (AEE), gave assurances of its desire to coninue cooperation at a ceremony held at the plant on Wednesday, at which a document concluding the warranty period was signed. AEE representatives stated that they are ready for continued cooperation at Lovisa should such a necessity arise.

Atomenergoexport was represented at the ceremonies by General Director V. K. Monahov. Also Vice-Minister G. A. Shacharin of Soviet Power Management and Electrification was present at the ceremonies.

Atomenergoexport is also promising the same kind of a nuclear waste agreement that it has had with Finland so far. Inasmuch as Finland procures nuclear power plants from the Soviet Union, there are no reasons to change the arrangement according to General Director Monahov. The spent nuclear fuel from the power plants would be returned to the USSR in the same manner as the spent fuel from Lovisa 1 and 2.

"Decision on Nuclear Power in 1983"

The arrangement has meant for Imatra Power that the reserve funds needed for the treatment of its nuclear waste will be only a small portion of that which Teollisuuden Voima [Industrial Power] must put up for the funding of nuclear waste treatment. Teollisuuden Voima will itself have to be responsible for the final disposition of its spent nuclear fuel.

According to Imatra Power a decision on another nuclear power plant will be made this year. "A policy decision should be made before the end of the current year since the construction time of a plant is especially long and even if decisions are made soon, actual construction will not begin until 1985," stated Managing Director Kalevi Numminen.

A 1000-megawatt pressurized-water plant seems to be the only realistic nuclear power alternative at this time. Imatra Power is also studying the possibility of constructing two 500-megawatt units. "A 1000-megawatt plant is the best alternative from the point of view of the engineers," states Director Anders Palmgren of Imatra Power.

There are two 1000-megawatt pressurized-water plants in operation at this time in the Soviet Union according to Vice-Minister Shacharin. The first has been in operation since 1980 and the second went into operation just before the end of last year. All in all, there is a total of 20 plants, of which a portion consists of channel-type reactors with graphite moderators, under construction in the Soviet Union.

Joint Venture in Yugoslavia

A Finnish-Soviet joint venture involving the delivery of a nuclear power plant to Yugoslavia is progressing. Both the state organization as well as commercial spheres in Yugoslavia are interested in this nuclear plant project according to General Manager Monahov. "We have had contacts and have conducted preliminary negotiations." Meetings on cooperation have also been held between Imatra Power and Atomenergoexport at the beginning of the year.

Kalevi Numminen considers the project in Yugoslavia to be worthy of consideration for the reason that we are talking about a country which is indeed serious about procuring nuclear power. "In several countries projects are being considered, but one cannot be certain of the final outcome."

At Full Capacity

Lovisa 2 operated at a net capacity of 440 megawatts on the day of the transfer ceremonies. Lovisa 1 was apparently assisted by some of its diesels since its capacity increased to 6--7 megawatts more than the capacity of the number 2 unit on Wednesday.

However, the operational capacities of the plants have fluctuated prior to the present situation. It has become necessary to repair both of the plants several times. The most serious trouble at the plants was the premature embrittlement of the pressure vessel plate, which made it necessary to reduce the amount of fuel by 10 percent. The reduction of the fuel, for its part, increases the loading intervals at the plants.

10576
CSO: 5100/2544

AUSTRALIA

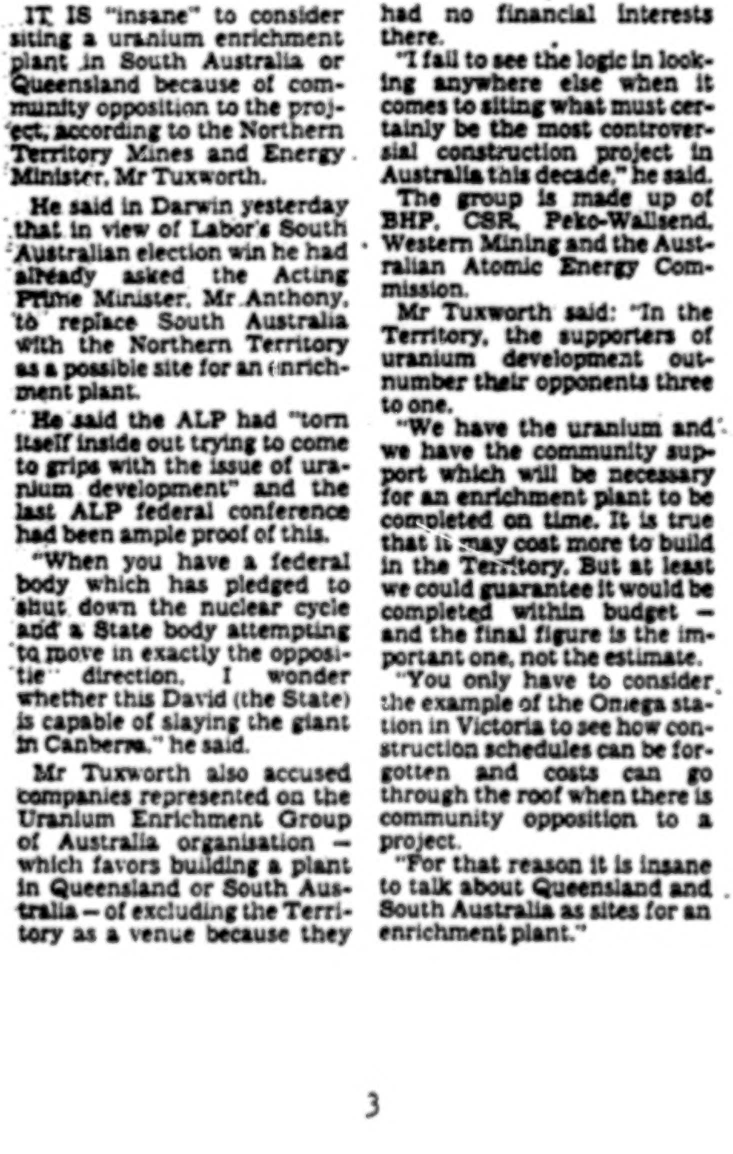
NORTHERN TERRITORY MINISTER LEADS BID FOR URANIUM PLANT

Slap at South, Queensland

Canberra THE AUSTRALIAN in English 16 Nov 82 p 2

[Article by Errol Simper]

[Text]



IT IS "insane" to consider siting a uranium enrichment plant in South Australia or Queensland because of community opposition to the project, according to the Northern Territory Mines and Energy Minister, Mr Tuxworth.

He said in Darwin yesterday that in view of Labor's South Australian election win he had already asked the Acting Prime Minister, Mr Anthony, to replace South Australia with the Northern Territory as a possible site for an enrichment plant.

He said the ALP had "torn itself inside out trying to come to grips with the issue of uranium development" and the last ALP federal conference had been ample proof of this.

"When you have a federal body which has pledged to shut down the nuclear cycle and a State body attempting to move in exactly the oppositie direction, I wonder whether this David (the State) is capable of slaying the giant in Canberra," he said.

Mr Tuxworth also accused companies represented on the Uranium Enrichment Group of Australia organisation – which favors building a plant in Queensland or South Australia – of excluding the Territory as a venue because they had no financial interests there.

"I fail to see the logic in looking anywhere else when it comes to siting what must certainly be the most controversial construction project in Australia this decade," he said.

The group is made up of BHP, CSR, Peko-Wallsend, Western Mining and the Australian Atomic Energy Commission.

Mr Tuxworth said: "In the Territory, the supporters of uranium development outnumber their opponents three to one.

"We have the uranium and we have the community support which will be necessary for an enrichment plant to be completed on time. It is true that it may cost more to build in the Territory. But at least we could guarantee it would be completed within budget – and the final figure is the important one, not the estimate.

"You only have to consider the example of the Omega station in Victoria to see how construction schedules can be forgotten and costs can go through the roof when there is community opposition to a project.

"For that reason it is insane to talk about Queensland and South Australia as sites for an enrichment plant."

Enrichment Group's Position

Canberra THE AUSTRALIAN in English 17 Nov 82 p 2

[Article by Errol Simper]

[Text]

THE Uranium Enrichment Group of Australia hopes to begin a full-scale study of the international uranium market early next year as a preliminary to an enrichment plant feasibility study.

And the group says it has not ruled out South Australia as a possible site for an enrichment plant, despite Labor's victory in the recent State election.

The group's chairman, Mr Gene Herbert, said in Sydney yesterday talks would be held with the Bannon Government to determine its attitude to a plant being built in the State.

"But we would not, could not — and would not want to — put a plant in a State in which the Government was opposed to the project," he said

A spokesman for South Australia's new Minister for Mines and Energy, Mr Payne, said in Adelaide the minister wanted to study the matter before making any statement on the Government's attitude to an enrichment facility.

Mr Payne wanted to discuss the matter with State officials, as well as study various reports which had been prepared for the previous Tonkin government.

The enrichment group (comprising representatives from CSR, Peko-Wallsend, Western Mining, BHP and the Australian Atomic Energy Commission) — whose pre-feasibility study last year found a plant was a viable proposition — favors South Australia or Queensland as the venue for a plant.

The Northern Territory has reapplied for the plant since the South Australian election, but Mr Herbert has again ruled out the Territory, saying yesterday that construction costs would be too high. The group is also concerned about a lack of access to skilled labor in the Territory.

Mr Herbert said the next moves in the bid to establish an enrichment operation in Australia would be a full-scale study of the international uranium market — to determine if a demand for enriched uranium would justify the expenditure — followed by a full-scale feasibility study.

A market study would probably be begun next year in conjunction with Urenco, the British-Dutch-West German consortium whose centrifuge technology has been accepted by the group as the most suitable for Australia.

Mr Herbert said the market study would take about a year. But it was a matter of "no particular urgency" in that it appeared markets were unlikely to open up before the early 1990s.

CSO: 5100/7513

GOVERNMENT SAID TO USE PUBLIC FUNDS TO STIFLE NUCLEAR FEARS

Brisbane THE COURIER-MAIL in English 15 Nov 82 p 11

[Text] **CANBERRA.— The Federal Government was accused yesterday of attempting to smother growing public concern about Australia's uranium industry with a publicly funded information program.**

The charge came from the Opposition's environment and conservation spokesman, Mr West.

Mr West said the Government's pro-nuclear propaganda campaign was a "blatant misuse of public funds" at a time when the country had more than half a million unemployed.

In its 1981/82 annual report, the Federal Government's uranium advisory council had admitted that up to 50 percent of Australians took an anti-uranium stance and that concern was growing.

He said the response of the "supposedly independent" council had been to plan a publicly funded campaign to provide pro-nuclear information.

The campaign had begun with publication of a booklet on the mining and milling of uranium, but was planned to include a greatly expanded Australian Atomic Energy Commission public information unit with special attention for "opinion informers."

Mr West said the council was attempting to hide behind a smokescreen of objectivity.

"Its program will not allow the presentation of a balanced view because anti-nuclear grounds have been excluded," he said.

The increased publicity program was based on the false assumption that Australia would become more involved with the nuclear fuel cycle, Mr West said.

He warned the Uranium Enrichment Group of Australia that, despite plans arising from market studies, an enrichment plant would not be allowed to proceed under a Labor government.

"The assumption that Australia will become more involved in the nuclear industry clearly flies in the face of the growing concern of Australians about nuclear issues," Mr West said.

CSO: 5100/7513

CONSTRUCTION OF CSSR NUCLEAR PLANTS DISCUSSED

Bratislava NOVE SLOVO in Slovak 11 Nov 82 p 4

[Article by Jan Riska: "Our Nuclear Power Plants"]

[Text] Energy multiplies man's power, enables him to attain a high standard of nutrition, housing, health care, education and transportation. Our entire lifestyle depends upon a sufficient supply of energy. While coal, crude oil, natural gas and water power multiplied the power of man's hands a hundred times, nuclear energy does so a thousand times.

What is the situation in Czechoslovakia? Nuclear power plants have been operating since 1972. JE V-1 at Jaslovske Bohunice with two units and a total installed output of 880 MWe [megawatts electrical] was put into operation 2 years ago. The installed output at Jaslovski Bohunice and Dukovany is to amount to 3,080 MWe in 3 years. The increases in production of electric energy in the ensuing years are to be achieved by construction of additional nuclear power plants. Intensive construction of nuclear power sources is taking place in our country at a time of increased interest of the general public in the preservation of a healthy living environment for our generation as well as for future generations.

Can nuclear energy be made up for by other resources?

We can consider coal, crude oil, natural gas, water power, wind power, direct utilization of solar energy, biomass and geothermal energy. The situation with curde oil, natural gas and our coal is sufficiently known. Renewable sources of energy have become very popular in recent years. Prominent experts presume that it will be possible to cover only a few percent of our energy consumption from them by the end of this millenium. Even their effect on the living environment is not without problems. Solar power plants with large outputs would cover huge areas and in geothermal power plants there are problems with the disposal of large quantities of water with a high salt content. The growing of plants as a source of energy would reduce the area of agricultural land necessary to grow crops for human nutrition.

Traditional Fuels Against Man

The relations between the development of Czechoslovak industry, including also the relation between the production of electricity and the living environment, also require extraordinary attention, among other things, because accessible fuel sources are of constantly deteriorating quality. While the caloric value of burned coal declines, its ash and sulfur content increases. Moreover, the problem of pollutants, and especially of sulfurous pollutants, is the most frequent subject of discussions. The burning of coal in our republic in 1980 emitted more than 3 million tons of sulfur dioxide into the atmosphere. Subsequent rain not only in our country, but also in a number of other industrialized countries is diluted acid. The acidity of soil increases, agricultural production decreases, forests are destroyed (by the end of this decade 350,000 hectares of forest will either be significantly damaged or completely destroyed in the CSR alone). Acid rain causes immense damage to buildings made of sandstone or limestone as well as to iron structures. The construction cost of desulfurization equipment for one 200 MW unit exceeds Kcs 1 billion. In addition to the sulfurous pollutants, there are harmful effects of airborn bits of salts of metals with high toxicity such as of arsenic, antimony, beryllium or dispersion of natural radionuclides contained in the burned coal (coal is a very good natural absorbent). The concentration of these radionuclides in fly ash can in some instances even exceed the permissible limits for nuclear power plants of comparable output.

When comparing the impacts of conventional and nuclear sources of energy, it must be borne in mind that a typical coal-burning power plant with a 400 MWe output emits daily on the average 75 tons of sulfur dioxide, 16 tons of nitrogen dioxide, 5 tons of fly ash, hundreds of tons of carbon dioxide and so on, to say nothing of the large-scale devastation of soil caused by surface coal mining, large piles of fuel, construction of dumps for fly ash and so on. In the operation of nuclear power plants, the dominant phenomena are the hot pollutants escaping from the cooling towers, which may give rise to fog and icing and cause local changes in weather (for example, increased precipitation).

Long-Term Agreements

Because of the continuously shrinking domestic deposits of fossil fuels and rising prices of refined fuels, the construction of nuclear power plants is the only way in which Czechoslovakia can secure enough energy for the development of the national economy. As early as 1970 an intergovernmental agreement was signed with the Soviet Union on cooperation of Czechoslovak and Soviet industries in construction of two nuclear power plants at Jaslovske Bohunice. In a similar way, the CSSR secured with the USSR construction of a total of 12 reactor units of the VVER 440 type and then of four 1,000 MW units. The principles of cooperation in construction of nuclear power plants register a gradual transition from bilateral Czechoslovak-Soviet cooperation to multilateral cooperation within the CEMA community. The basic document is an agreement on multilateral production specialization and cooperation, and mutual deliveries of equipment for nuclear power plants prior to 1990. In accordance with the agreements already signed, the long-term plans of the Ministry of Fuels and Power anticipate a total of 12 reactors of the VVER MW type at Jaslovske Bohunice, Dukovany and Mochovce.

In contrast to the original type of V-230 reactor which was constructed at Jaslovske Bohunice and was equipped with hermetic excess-pressure boxes, JE V-2 and JE Dukovany uses already a later V-213 type which is equipped with a fail-safe system and automatic cooling of the reactor's active zone in case of mishap. At Mochovce, the V-213 again will be used, but will be equipped with antiseismic devices designed to reduce potential effects of an earthquake in accordance with the Soviet norms and requirements specified for the design of nuclear power equipments in the seismic areas.

After the V-213 type, there are plans for constructing an innovated type of the nuclear power plant with a VVER 1,000 MW reactor, among other things, also with a higher degree of nuclear safety resulting, for example, also from the full-pressure concrete shell which should prevent, in case of a breakdown or accident, the escape of radioactive substances into the living environment. Like VVER 440 of the 213 type, it will be equipped with the fail-safe system and the plant should be safe even if an airplane crashes into it.

The exploitation of nuclear energy depends upon the existence of the entire fuel cycle which includes mining and processing of uranium ores, refining of uranium, its enrichment and production of fuel, operation of nuclear power plants, transportation and storage of waste.

Operation Safety

We shall deal in future articles with the problems of nuclear safety and both direct and indirect effects of construction and operation of nuclear power plants. Construction of a nuclear plant will affect the living environment not only the the site of the plant itself, but also in the large neighboring territory. In particular, it will affect the original landscape by the large extent of ground work (for example, the construction of the nuclear power plant at Mochovce will require the removal of millions of cubic meters of earth and rocks) or by erecting structures which will dominate the entire region (eight cooling towers 150 meters high will be constructed at Temelin) or by introducing new technical elements in the region, such as power lines for distribution of electric energy, new highways, dams for securing sufficient quantity of technological water and so on.

During its service life, a nuclear power plant passes through the following five stages:

--planning stage terminated by the selection of the building site;
--predesign and design preparation;
--construction resulting in putting the nuclear power plant into operation;
--actual operation;
--the final phase of disposal of nuclear power equipment after the power plant is closed down.

The closing down of a nuclear power plant is complex, but no more complex than its construction. As I was told by the experts, everything depends upon the fact whether a potential exchange of the reactor, which obviously will be conceivable in the future, is anticipated during construction and whether space is left for this purpose so that after the reactor's service life comes to an end another reactor with a primary circuit could be placed nearby, while the secondary circuit could continue to function. A nuclear power plant should properly operate at least for 20-30 years and with further progress in the scientific-technological revolution, new ways will certainly be found for reconstructing or closing down existing nuclear power plants. The most important point is to construct them in the first place. For this reason, attention is focused on the first four phases. As experiences from Jaslovske Bohunice have demonstrated, V-1 operates reliably, is the mainstay of our electricity production and, due to qualified operators, it produces more electric energy than the project anticipated for these years.

Construction with Obstacles

Construction of nuclear power plants V-2 and JE-DO at Dukovany is being completed. Great effort is being made to meet the deadlines set by the government. It appears that precisely the first two stages, namely planning resulting in the selection of the proper building site and predesign and design preparations together with other requisites, are not being completed by the appropriate organs and organizations with a sufficient lead time, although dozens of sites have already been selected where the nuclear power plants could be constructed. A decision has been made on the construction of the nuclear power plant and the date on which the reactor is to be put into operation has been set. Yet, long months and even years pass before the building permit is granted and registered, and the foundation stone laid. If the responsible people realize the importance of such a construction project, they naturally should consider all related problems which will have to be solved: lodging for the construction workers, expansion of services, construction of apartments, settlement of the legal aspects of ownership, assignment of duties of local organs, construction workers and suppliers of technology. However, so long as the project is not approved and prepared, there are only speculations and the duties begin to be assigned, contracts signed and funds distributed and "things get going" only after some deadline was missed. It is a chain reaction. Too many various regulations, usages and planning and financing mechanisms cripple initiative in this respect. Not a single construction project has started prior to the specified deadline. Usually the start is made with some delay. The mechanism of implementation of tasks is too involved. It often looks like this: construction workers say that they could meet the targets because they have the necessary capacities, but the blueprints are not available. At some other time, they have the necessary work force, but they lack equipment. Then again they have equipment, but not workers. The design engineers would draw the blueprints, but the documentation is inadequate. Mechanical engineers would manufacture the necessary equipment, but the deadlines set by the general contractor are unusually short. Construction workers would start, but they are not permitted to enter the building site because the legal aspects of the ownership of land are not settled and so on and on. Yet, this is not a peasant cottage or recreational center, but a construction project extraordinarily important for the power sector and for the entire national economy. In the final stage, an effort is made to make up for what has been missed not only by the enterprises. The ministries, after all, must know their responsibilities and must hurry to discharge them.

Complex Conditions of V-2

The CSSR Government Presidium's Resolution No 115/82 on the construction of V-2 specified June 1983 for the start of experimental operation of the first unit of V-2. The construction of this nuclear power plant takes place under substantially more complex conditions than the construction of V-1. There has been a substantial increase in the scope of construction work because of greater nuclear safety. This is evident also from the budget costs which increased 80 percent over the original estimates. This necessitated a corresponding increase in construction capacities as well as participation of selected experts from other enterprises of Engineering, Ground and Industrial Construction. The Minister of Construction issued as early as December 1981 an order for implementation of tasks this year [1982] which provided for making additional capacities available to this project. Although 1,300 workers were added to the work force, there were only a few self-contained collectives, brigades of socialist labor with foremen.

The work on key sections began in three shifts and regular shifts are organized on Saturdays and Sundays. The construction regime is unrelenting. It is imperative to meet the deadlines for individual construction stages. Additional requirements are raised and changes made by the investor which are necessary for coordination of technological and construction work, and for proper scheduling of construction and deliveries by the suppliers of technology. Although the financial plan is being exceeded and is expected to be exceeded also by the end of the year, this is necessary to fulfill the construction plan. Hydrostav, the general contractor of the project, tries to cope with this year's tasks and appreciates assistance by other enterprises particularly in filling specialized jobs, where a labor shortage exists. A continuous construction cycle begins 1 November 1982. During the rest of the year, a considerable part of available capacities will be assigned to the construction of the first unit which is scheduled to be put into experimental operation in June 1983. This calls for a great deal of political and organizational work by all participants in the project.

Why Such a Hurry?

If work had proceeded with full speed from the very beginning (that is, if we had as many welders, spidermen, armature setters and carpenters as we lack designers and willingness by workers in the engineering industry to fulfill their obligations to this project with priority ahead of schedule, we could build enough nuclear power plants for the entire world), neither the construction workers nor designers nor suppliers of technology nor the investor would be in hot water now. Emergency measures always indicate that what should have been done without crash work, was not done on time with appropriate people's initiative. I do not have in mind construction workers alone. When a reporter visits the building site and sees that tremendous effort, that moral but also financial interest in completing the project on time, that extra time spent in (but paid for) overtime work (those weekends and nights, that leisure time spent here rather than devoted to rest, family and various pastimes and hobbies), he must inevitably reach the conclusion that somebody failed to do something on time, but that it was not these construction workers.

At Mochovce, both the investor and designers lagged behind in their work and we dealt with the situation there in one of our earlier articles. As of now, we can speak of the implementation of tasks on the first building only, for which the construction site is being prepared, although according to the state plan work should already be in progress on all except the third building. After the experiences in the removal of earth and rocks for the upper reservoir of the Cierny Vah pumped storage power plant, Vahostav Zilina, general contractor for the first construction project, is successfully proceeding with the implementation of material and volume tasks specified for this year. It has already fulfilled more than 64 percent of the annual task as expressed in Kcs during the first 7 months of this year in addition to also securing material targets depending upon construction progress. It met the progress deadline set for the preparation of area "A" in the building site 1 months ahead of schedule, and progress in the removal of earth and rock is in full agreement with the flow chart. The excavation of rocks, including pits forinstallation of production units, should be completed by the end of this year. Approximately 2.3 million cubic meters of rock will thus be handled during this year alone. This represents an hourly output of 750 cubic meters, which is unprecedented in Czechoslovakia. This was made possible by the good labor organization on the building site and also by the adequate supply of heavy-duty construction equipment and transportation vehicles which the supervisory organs bought for the project already last year. Nevertheless, the Vahostav workers at Mochovce are in arrears. Spare parts and material imported from abroad are not available. The Vahostav workers had more than 10 million foreign exchange Kcs allocated for the purchase of spare parts, but could spend only 40 percent of this amount during the first 9 months because the spare parts were not available. As a result, the drilling systems often break down and remain idle as much as 40 percent of the working time, dredges about 30 percent and bulldozers 20 percent of the working time. The workers, thus, inevitably had to lose the initial advantage and began to fall behind in August and September, although they were improvising and repairing machinery with the tools and parts which were available. At such a pace of work, diamond chisels of drilling systems and other parts wear out more rapidly and must be replaced. Moreover, some machinery transferred here from Cierny Vah has already been fully amortized but is still being used. This testifies to good care of machinery.

Postponed Deadlines

At the Dikovany power plant which is being constructed by the Industrial Construction Projects Brno the even-flow construction method was adopted.

Self-contained collectives switch from one job to another. Because there are many young engineers on the building site, much time was wasted and the deadline for putting the first unit into experimental operation was postponed 6 months.

We walk around the construction site and are assured by both construction workers and suppliers of technology that uranium will produce electricity within 1 year. They say so with pride, but also a small measure of fear as to whether they will manage to complete it on time. They want to do everything in their power for electricity to be produced as early as September 1983.

Neither the construction workers nor suppliers of technology nor investors nor design engineers can complain about lack of experience in construction of nuclear power plants. There are more than enough of them. In the final stage of construction, there is always something that was not done on time and must be made up for, forces are mobilized, problems become more urgent, certain things must be done immediately, capacities must be concentrated on one job, the work is carried out in continuous shifts, weekends are spent on the construction site and there is a race against time, every minute matters, although neither weeks nor months mattered at the beginning. Despite the slow start, one has to finish on time, because the energy situation makes it imperative. The iron principle: "Do not put anything off till tomorrow!" should also be observed in the construction of our nuclear power plant which begin with planning, predesign and design preparation and all matters related to them.

10501
CSO: 5100/3008

NUCLEAR POWER STATION CONSTRUCTION PREPARES FOR WINTER

Bratislava PRAVDA in Slovak 28 Oct 82 pp 1, 2

[Article by PRAVDA editor Dusan Stancek: "The Construction Project Prepares for Winter"]

[Text] The ultimate success of the builders of the V-2 nuclear power station in Jaslovske Bohunice is highly dependent on speeding up work on the critical sections of the station. The steam generator compartment, the central part of the reactor room, the racks for electrical equipment, the ventilation center and the facilities of the "water network" have all felt the negative effects of previous shortages of construction capacities, late deliveries, lack of material support, and changes and additions in the project documentation. In spite of a speedup of the pace of construction during the summer and efforts to make up for lost time, construction is still considerably behind schedule.

It would be more gratifying to describe the builders of the new power station if they fulfilled all their assignments as they undertook to at the beginning of the year in their joint socialist pledge. According to this pledge, the principal topics of conservation on the project would currently be the first and second hydraulic tests--but this cannot be. Even there, the builders have thus far failed to meet their pledge. Currently, construction work is all focused on one task: preparing for winter so that the pace of work on the concluding stage of construction of the first unit will not slacken during this period--for only this will guarantee ultimate success.

A Problem That Should not Have Been

The current situation on the project and the performance of winter preparations were discussed this week at the projectwide CPCZ meeting. After the truly record-breaking work of the steel assemblers from Hutne Montaz [Metal Installation] in Ostrava the main power production unit primarily awaits the work of Hydrostav's [Hydraulic Construction] personnel, which involves roofing over and installing the central heating distribution system. This will not be simple, at least as regards roofing. VSZ [West Slovan Steel Mills] in Kosice lacks sufficient galvanized sheet steel. In the power station it is used as a roofing material, for interior floors and for passages. The metallurgists claim that they do not have the zinc. But the construction project investor provided them with it in advance in accordance with CSSR Government Presidium Decree No 115/82 on the introduction of a preferential system of supplying necessary materials to the nuclear power station. All the metallurgists would have had to do was to write out the order--but they did not.

Another of the current pressing problems is installing the water-cleaning vessels in the feedwater facility. The final supplier, CKD [Ceskomoravska-Kolben-Danek] in Dukla still cannot find a 130-ton mobile crane. This problem has also been considered by the relevant ministry, but without satisfactory results. The problem must, however, be resolved as quickly as possible.

"Expeditious, thorough solution of problems and efforts to make up for lost time are not only the concern of the responsible economic personnel and representatives of party organizations in the contractor organizations: all communists on the project must strive to realize the objectives, and there are enough of us there here to activate everyone," declares Anton Srdos, representative of the projectwide CPCZ committee for construction of the V2 power station.

Deadlines Continue to Exert Pressure

It is true that making winter preparations may not be such a lofty goal as the second hydraulic test, which, according to the schedule, was to have been carried out in on 15 November. Winter preparations on the project were also focused on this date. But it is already apparent that the builders will not meet the deadline. Onsite you can hear rather tentative statements that winter preparations are more likely to be finished about 10 December.

"The operational group for project management has directed the participants to reevaluate these schedule suggestions. Twenty-five days would be too large a time lag before the winter," argues Jan Hrehus, secretary of the operational group for project management.

What do the main participants say about the request to cut the time overrun for concluding winter preparations?

Even the Saturdays and Sundays worked by the general contractor, Hydrostav's Jaslovske Bohunice branch, are insufficient to eliminate the slippage. What, according to the schedule, they were to have finished before the end of June or July will be finished only in November. It would be an oversimplification to blame only the builders for this. Their share of the blame consists in the fact that the entire Construction Ministry was unable to mobilize its forces o or 2 years ago in the way it did for this summer. Furthermore, CSSR Government Presidium Decree No 115/1982, which basically solves the supplier and economic problems of this construction project, is still "on the doorstep," and neither the builders nor the equipment installers have directly taken account of its effects. A matter of more difficulty is the fact that during the entire final stage of construction the builders will be feeling the results of almost 1,400 changes and additions in the project documentation, which they had to follow but which cost them immense effort and time which now could be of great use to them. "During November we will be preparing the project so that we will be able to continue the installation and finishing work on the first unit during the winter," states Eng Ernest Jancina, director of the local Hydrostav branch.

Only the Proof Is Lacking

The most urgent problem of the general contractor for equipment, SKODA Plzen, is that of finishing the station's heat exchangers. A hundred installers are working on it every day. This is the maximum, for a larger number could not work there. The deadline for finishing is 10 December. "One helpful way of shortening the time required would be to introduce 12-hour shifts. Our workers' pledges are focusing on this," says Eng Frantisek Horky, the director of the power station construction enterprise. During the summer the equipment installers were also burdened with another bundle of problems: they lacked scaffolding carpenters. According to agreements, they had such coworkers, but the latter had other work to do during the summer. Now the numbers of carpenters has increased, but the scope of the work has also expanded, and there are simply not enough. Accordingly, Jaslovske Bohunice is awaiting help from the parent enterprise in Prague and from the Federal Ministry of Metallurgy and Heavy Engineering.

Nor is the problem of a slow increase in the size of the work force, which is the province of the general contractor for equipment, a new one. It has been recognized, but there has been no significant improvement over roughly the last 3 or 4 months. Currently 2,206 workers are working on the equipment side, of whom only about 1,800 are directly engaged in production. The project is short at least another 1,000.

Eng Horky answered a question with another: "Do you think that the factories would fail to send them here if they had enough workers?"

Let us compare this question with the statement of Eng Jiri Prochazek, deputy general director of the SKODA concern and currently leader of the operational staff for startup: "If we succeed in carrying out the winter preparations, there will be people on site! Starting on 1 January 1983 the number of production workers will be increased to 3,000."

We recalled that all of this year's deadlines were focused on 15 November when the second hydraulic test was to be performed. The project is in its final stage, the weather is still favorable: Why is the needed number of installers not working here now, since the investor states that more of them could be working here? Why are they waiting until the winter preparations are completed and putting off the arrival of a larger number of installers until the new year? Representatives of the equipment contractor argue that if more workers came there would be probelms with locker rooms, which Hydrostav, the construction contractor, is supposed to provide according to the relevant agreements. Representatives of the general contractor for equipment began to air this problem in mid-May of this year, but not once did the locker rooms come close to their full capacity, and even now, Hydrostav, according to its director, is prepared to overcome the problem. There can be no complete answer to this question, but the postponement of the arrival of a larger number of workers to a date long after the time when they could have begun work indicates that the schedule for construction of the power station was not coordinated with the enterprises' capacities. This can be stated even more unambiguously: A project was supposed to have been of top importance to society is not being accorded this status in practice.

8480
CSO: 5100/3003

BRAZIL

NEW LAW ON FEDERAL CONTROL OF NUCLEAR ACTIVITIES BLASTED

Decree Law 1,982

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 9 Jan 83 p 83

[Editorial from Notes and Information Page: "Nuclear Centralism"]

[Text] In five brief articles, Decree-law No 1,982 dated 28 December 1982 buries in the simplicity of the DIARIO OFICIAL publications, what there could be of university autonomy and scientific research in the area of nuclear energy accomplished without the supervision of the National Security Council. The importance of that decree-law, which surely Congress will pass or will be approved because of the passage of time, is greater than one may think in view of the five articles and the three signatures which change the course of things in Brazil: Joao Figueiredo, Cesar Cals Filho and Danilo Venturini.

It is relevant not only because it centralized the monopoly of the "production of nuclear materials and their industrialization," as is stated in subparagraph III of Article 1 of Law No 4,118/62, in the National Nuclear Energy Commission [CNEN] and in NUCLEBRAS [Brazilian Nuclear Corporations], its importance is redoubled because it expressly states that "the development of research in the field of nuclear energy will be under the exclusive control of the Union." But its impositions do not stop there, throwing into the briar patch all the work which tens of researchers, some physicists of renown, have been doing in the most varied centers of research throughout Brazil, particularly in Sao Paulo; the decree-law goes even further and makes it clear that any "agency or entity constituted for carrying out research in the field of nuclear energy (...) must be managed technically and administratively" by the CNEN and NUCLEBRAS.

In short, from now on atomic energy research in Brazil will be dictated by two federal agencies, practically without the control of public opinion and Congress. The CNEN and NUCLEBRAS will have the last word, not only administrative on the life of the state and university "agencies and entities," but also on what to research, how to research, and especially this: what to research for. The signature of Gen Danilo Venturini--obviously as secretary general of the National Security Council and not as minister of Land related issues--raises one end of the veil: Nuclear research from now on comes under the control of the National Security Council and will all have the classification of "Top Secret" or "Secret" imposed by that agency.

Published at the end of last year, Decree-Law 1,982 closes a double concentric circle as can be seen. The first is that of Brazilian centralism, which negates the "decompressing" effort of which the plan for a political opening was a pallid example. If knowledge is power--as some persist in saying, emphasizing it is the greatest of powers--as of this year all knowledge on the most sophisticated form of energy that science has managed to release, nuclear energy, is concentrated in the CNEN and NUCLEBRAS (in the final analysis in the National Security Council). This being so, that fact is added to the other characteristics of the Brazilian regime, the National Security Council now goes on to have not only control over research, but of its result, in short, it goes on to have the greatest amount of power that any agency of federal administration could hope to have. In it will be concentrated as of now the knowledge on research, production and industrialization of nuclear materials for energy purposes. The people in their simplicity have already identified nuclear energy with the devices which contain it until the decision by someone releases it for peaceful or military purposes....

The other circle closed, and whose center as always is the National Security Council, is the complete subordination of the Nuclear and Energy Research Institute [IPEN] of Sao Paulo to the CNEN. Decree-Law 1,982 was not submitted to take care of research being done on radioisotopes for use in agriculture or medicine, although the lords of Brazilian nuclear power today may intend to go that far. The autonomy of research on the eve of the 50th anniversary of the University of Sao Paulo is violated considerably by that prospect. The decree-law is aimed directly at the IPEN without mentioning it. And it does so to provide cover to the actions by Governor Jose Maria Marin, which without apparent motives put an end to the autonomy of the institute and subordinated it definitively to the CNEN even though at the cost of the autonomy of Sao Paulo and the forms of courtesy with which a state governor should treat the University of Sao Paulo, the FIESP [Sao Paulo State Federation of Industries] and his own Secretariat of Science and Technology.

The first act by Jose Maria Marin, on which we commented here on 21 November, was the agreement signed with the CNEN, transferring the maintenance of the technical and administrative management from the institute to the CNEN. We said two things about that agreement should be pointed out at that time: first, the capitulation of the Sao Paulo Government and the distrust with which the federal administration viewed the new government leaders who appeared to be elected but were not yet elected on 1 November when the aforementioned document was signed; and second, the impression that the agreement was signed to insure secrecy on projects entrusted to the IPEN by the CNEN because the CNEN subsidized "in it activities which could be described as military, such as the purification and enrichment of uranium. That activity," we added, "was disclosed months ago at the time of the shipment of secret cargoes to Iraq and of the plans to achieve the reprocessing of plutonium on a laboratory scale."

Now, on 22 December, 6 days before Decree-Law 1,982, Governor Marin submitted a new regulation for the IPEN and establishes in its Article 9 that the president of the CNEN can at any time dismiss the members of the IPEN Superior Council whom he as governor has appointed and furthermore that the president of the CNEN, pursuant the single paragraph of this article has the authority to choose the substitute for the remaining period in case of a vacancy in the position....

With the complicity of the governor of the state of Sao Paulo, the National Security Council, through the CNEN, assumes the management and supervision (in addition to the financial and administrative functions) of all the IPEN programs and as if this were not enough for the pursuit of objectives still not at all clear, academic research on nuclear energy is subordinated to two agencies indirectly subordinated to this council, establishing one more monopoly of the Union. That one, we are sure, will under no circumstances accept any risk contracts....

Ramifications of New Law

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 11 Jan 83 p 2

[Editorial from Notes and Information Page: "USP a Consumated Act"]

[Text] The fact that the news published by ESTADO on the cancellation of construction of the nuclear powerplants in Iguape came out on the same day in which Decree-Law 1,982 on the centralization of nuclear research in the CNEN [National Nuclear Energy Commission] and NUCLEBRAS [Brazilian Nuclear Corporations] was published could have been more than a simple coincidence. In that case, it would indicate that at the moment in which it attained a clearcut victory against the sector of technobureaucracy (and even oligarchy) which insisted on proceeding with the nuclear agreement with Germany, Brazilian society saw itself compelled to submit to decisions on energy matters over which it is not allowed to express an opinion or exercise the slightest control. From the economic-financial point of view, the cancellation of construction of the Iguape I and II powerplants was nothing more than the triumph of good sense. However, that decision gains new dimensions if viewed from a new angle, that of the measure taken against the university community by the aforementioned Decree-Law 1,982. Indeed, from that point of view, the concentration of nuclear research in the CNEN and NUCLEBRAS indicates that the National Security Council [CSN] reached the conclusion that the nuclear agreement with Germany would not be able to facilitate access to Brazilian scientists and technicians to the technology of the so-called "sensitive" aspects of the complete cycle of the atom, or at least to certain, determined knowledge which could be obtained without the strict supervision of the IAEA.

It is to this aspect--to which we unsuccessfully called the attention of public opinion and the authorities when we revealed the export of uranium to Iraq and later the efforts to reprocess uranium (thus obtaining plutonium) on a laboratory scale--that the attention of all who are concerned with the development of relations between Brazilian society and the bureaucratic element which controls the decisions categorized as pertaining to "national security" should be turned. This is a long-term problem and on which profound thought is required as new information is added to that which is already of public knowledge. Another problem, on which there is already need for a mobilization of Sao Paulo opinion, is that Decree-Law No 1,982, as we indicated last Sunday, buries university autonomy, particularly with respect to the University of Sao Paulo.

The autonomy of the University of Sao Paulo had also already been brutally violated by the decree signed 22 December by the governor of the state pursuant to which representatives of the institution on the IPEN [Nuclear and Energy Research Institute] Council become subject to dismissal at any time by the president of the CNEN. The federal decree-law is only going to prevent the future governor of the state, in conformance with his constitutional and legal authority, from issuing a decree making amends for the inelegance committed against the University of Sao Paulo on the eve of its 50th anniversary (which will be in 1984) and against the Sao Paulo State Federation of Industries. What else could such a procedure by federal authorities mean except a clear demonstration that they will transform the OPEN in a preferred center for not at all well-defined research objectives, given the failure of the nuclear agreement with Germany? The question which presents itself is of the greatest importance: It is of the possibility of society being able to control research in areas of great importance for the future of the nation through the university. Today the university--the University of Sao Paulo to speak clearly--can no longer perform autonomous nuclear research of any kind without running the risk that its departments and laboratories (in addition to its professors and students) will come under the control of the CNEN and NUCLEBRAS, indeed of the National Security Council. With that the autonomy of the university, not to say pure and applied research, disappears in the area of nuclear energy. Admitting that the IPEN, since the ill-starred agreement dated 1 December and the no less antifederative regulation of the 22nd of last month can no longer be considered a university institution (because it is integrated into the plans of the CNEN and those who run it directly or indirectly), what remained of autonomous research was left in confusion by Decree-Law No 1,982. It establishes an accomplished fact without a doubt because the subject with which it deals is actually national security. What must be said, in view of the accomplished fact, is how is the University of Sao Paulo going to react, whose Physics Institute--not to mention other units which devote themselves to nuclear research (all of them may be placed within the framework of "nuclear energy")--loses its reason for being because it can be "managed technically and administratively" by the CNEN and NUCLEBRAS.

Certainly the oligarchy did not consider the entire scope of the decree-law which Minister Cesar Cals ratified as an official duty. The other two signatories of the decree-law, however (the president of the republic and the secretary general of the CSN) know where they want to go. Will the University of Sao Paulo and society be capable of taking action in the opposite direction with the object of preserving autonomy of scientific research without ceasing to take into account the accomplished fact that was created, or better said, that is being created, in the nuclear field despite our repeated warnings?

Physicist Speaks

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 9 Jan 83 p 49

[Text] Physicist Luis Pinguelli Rosa said yesterday in Rio that the decree signed by President Figueiredo on 22 December ordering the transfer of the state agencies which deal with nuclear energy to federal control is aimed specifically at the case of the Nuclear and Energy Research Institute [IPEN] of Sao Paulo. In his opinion, that institute, previously known as the Atomic Energy Institute, "is too powerful to remain in the hands of an opposition government such as that of

Sao Paulo, for which reason the president decided to take away its independent life. "I cannot analyze the presidential decree in any other way," said Pinguelli, saying that all research institutions in the nuclear field have for a long time already been controlled by the National Nuclear Energy Commission (CNEN). "Now, if the CNEN has legal authority for establishing standards and supervising all activity related to radioactivity or nuclear materials, there would be no need to order, by decree, the transfer of state agencies to the care of the federal government."

Pinguelli also said that the IPEN of Sao Paulo is very large, responsible for research of interest to NUCLEBRAS [Brazilian Nuclear Corporations] and, among other things, it is studying the nuclear fuel cycle for the enrichment of uranium used in reactors, and for its reprocessing after use to remove from the used material the remaining uranium which is still useful, and the plutonium used in nuclear weapons. That is why, according to him, its activities make the institute very critical from the point of view of the Union: "They do not want to lose control of an institute of that level, the main nuclear research study institute in the country."

The measure, according to Pinguelli, who is also president of the National Association of Teachers (ANDES), in addition to affecting the IPEN, will have only secondary effects because the majority of the other agencies devoting themselves to nuclear research have already been incorporated into the CNEN, as is the case of that existing in the Federal University of Rio de Janeiro and the Dosimetry Institute in Jacarepagua, which also belongs to the federal government.

8908
CSO: 5100/2025

COSTA ALONSO ON NUCLEAR GOALS, RESERVES, TECHNOLOGY

Mexico City EXCELSIOR in Spanish 17, 18, 19 Nov 82

[Article by Mario Ruiz Redondo]

[17 Nov 82 pp 1-A, 15-A]

[Text] Mexico's economic and financial crisis will cause a cutback of up to 80 percent in its goals to obtain electricity from nuclear power by the year 2000, the head of the National Nuclear Research Institute, Dalmau Costa Alonso, told EXCELSIOR yesterday.

The goal of 20,000 MW from nuclear energy by the end of this century, which was set during this 6-year period, is an optimistic goal that goes beyond the limits we can achieve, as we must also think of the nation's technological capabilities, he said, adding:

"This present situation we are going through definitely forces us to modify our national nuclear plan radically. The most we could manage would be an objective of generating 4,000 MW or at most 6,000 MW from nuclear power by the year 2000."

"Thinking in terms of such a goal would be appropriate, as long as we also pursue a technological objective that we can achieve with self-determination, I won't call it self-sufficiency, if we see what we want and how we can achieve it by the year 2000."

The official said he feels that the present crisis has had some positive results in the energy sector, as it has made quite clear the need to diversify our primary energy sources. This means that we must free our hydrocarbons by using other energy sources, as it is essential to rationalize our consumption in all areas.

In the near future, our electricity supply should use alternate energy sources which do exist as part of our national resources, such as hydroelectric power, coal, and geothermal energy. In this context, nuclear energy does play an important role.

Costa Alonso then raised the question: "What price will Mexico have to pay for this?" It is important to analyze the price that the Mexican citizen will have to pay for the use of nuclear energy. Are we willing to pay the price of political or technological dependence for it? Or do we have to ensure our technological and political capabilities?"

Without Defining the Nuclear Policy

He said that as to our energy policy, it has been maintained without being reaffirmed in line with technology, in order to develop our definitive nuclear technology, so that it may best meet the nation's interests.

The director of the ININ [National Nuclear Research Institute] explained that the nuclear plan will have to be conducted in three stages. The first will be devoted to programming, between now and 1985, with the second phase lasting until the year 2000; this would be the mid-term plan, and a highly technological phase.

The third phase of the plan would begin starting in the year 2000, and its mission will be to put in execution an organized program. This by no means should be construed as suggesting that these are isolated phases, since they do overlap. For example, while we are planning the future of our nuclear energy program, we are also completing the first nuclear power plant in Mexico, Laguna Verde in Veracruz.

We are making use of this experience, which is not necessarily a pleasant one, to redesign our program and refocus it for the long term. While we are in this technological phase, which is fundamentally a matter of obtaining technology, we will be taking steps so that at the end of this century we will be able to generate electricity from nuclear power, in quantities ranging between 4,000 and 6,000 MW, enough to give a measured, rhythmic pace to our technological program and give us a sufficient capacity, said the ININ director.

I believe, he said, that this serious and financial crisis that we are experiencing now will tend to make clear the technological character required for a country like ours, and emphasize its programmatic nature.

Our financial resources are limited, and our raw material supplies are good, but we must not use them unwisely. We must make our plans for a very long-term period, and that is why the nuclear program should be carried out in three phases.

The Basic Premises Should Not Be Changed

During Costa Alonso's conversation with the reporter, he spoke of the origin of the energy program, which was derived from the Industrial Development Plan. Both of these were prepared based on the conditions then prevailing in the national and world economy, conditions which were more favorable than the conditions we have today.

Both programs can not be executed as planned. The Industrial Development Plan has been changed, and therefore, the energy plan will also have to change.

The director of the ININ indicated that "it isn't reasonable for the fundamental premises of the energy program to change, but the figures involved should be altered. It is impossible to predict what the scope and magnitude of the nuclear program should be."

"The nuclear program must be made to adapt to this type of situation. Now we are starting at base level because of the economic crisis, and so this should enable us to determine our minimal criteria and expectations."

"Because of the crisis, we will be much more austere in terms of our commitments made toward the future. That is essential. I think that it is more important to have the capacity to build large plants than to actually have 20,000 MW. It is important to be able to make the right technical and political decisions. This takes time, especially in a country like Mexico, where we have never before had to face pressures related to an energy crisis."

[18 Nov 82 pp 1-A, 21-A, 29-A]

[Text] Dalmau Costa Alonso, director of the National Nuclear Research Institute, said that there are no hard data proving that Mexico has abundant uranium resources. The proven reserves barely cover the amount needed to meet the demand of the Laguna Verde power plant in Veracruz, when it begins to operate.

He stated: "While we do have information from world-class specialists that Mexico may possibly have extensive uranium resources, we still lack the hard data to prove that. I can only say that at this time we do have a sufficient capacity to supply uranium for the first nuclear power plant that is still under construction. Beyond that, I wouldn't want to say anything."

"Within the prospects established in the nuclear program that is being prepared for the next 6-year period, priority will have to be given to the exploration and accurate quantification of our reserves."

"Once we have made sure of our independence in terms of this resource, then we can draw up a plan to build nuclear power plants in accordance with that policy. It should be clearly understood that I am speaking of independence in political terms, because the economic aspect does not have any great impact on the nuclear option."

"Then," he added, "we will be able to determine whether there will be limits on our domestic use of uranium, and whether or not we may be able to export it. At this time we can't yet talk about that. And the subject of earning foreign currency from uranium sales is simply beyond our scope now."

Mr Costa Alonso, will we lag behind because of the cutback in our nuclear program for the year 2000?

"I think that we must be very careful about saying that we will lag behind because of the economic crisis. If Mexico did not see a future for itself in the field of nuclear energy, it would not be making investments in this field."

"It seems to me that acquiring advanced technology just for the sake of having it is not a good solution for a country like ours, which needs so many things. We need to seek the best existing technology. And that does not necessarily mean the most modern. A type of technology that might be useless or out of date for another country might be the best for us. We definitely must be very careful about this."

The Cutback Will Not Hurt Us

The director of the ININ said that reducing the amount of electricity generated by nuclear power will not be a problem for Mexico. Technologically, we wouldn't be at the level we hope to be by the year 2000.

"Everything depends on politics, on whether the government decides to follow the best course. Surely the best course will be to choose a lower production in terms of quantity, but better in terms of quality."

"We are sure, as we have pointed out repeatedly, that the fundamental issue is the definition of a nuclear program. When we have a program, we will know the course we will have to follow and at what speed."

Costa Alonso said that training a large number of nuclear technicians in Mexico would only lead to frustration for a number of the people trained, for there is the risk that we may not have a sufficient capacity to absorb them.

"We need the program. That is definite. We are working on it. Once it is set, we will be able to define the progress and development that Mexico will have in each of these areas. But it is also important to empahsize that the political decision should not be made from the top alone, but should involve input from the people."

1979, the Year of Mexico's Nuclear Take-Off

Costa Alonso commented that 1979 was the year when Mexico's nuclear energy program really got started, with the passage of the Nuclear Law, which reaffirmed the nation's interest and involvement in this field.

That decision was reinforced with the establishment of a reactor center in Sonora, where some of the ININ's personnel have been transferred.

He feels that such actions have endorsed in the minds of the people the idea that nuclear energy is important for Mexico. However, it is one thing to endorse this concept in general terms, and is quite another matter to develop the technology to take action.

Costa Alonso explained that from a technological point of view, the construction of a nuclear power plant is fundamentally an engineering problem, and that "in Mexico we have a solid tradition in civil engineering. We have excellent mechanical and electrical engineers. We have a sufficient capability to deal with these problems."

He said that "we do lack the coordinating capabilities required to handle all these fields for a project of the magnitude of a nuclear power plant. However, there are no magic formulas to create these capabilities. The only formula is to create this capability on the basis of day-by-day experience, and to continue to train people.

"There are very few nuclear projects in the world that have been directed by the same people from their start to their conclusion. It is important to keep on training people. We can do that by learning from our own experience. That is the only way. We have the basic and technological capabilities."

"We will have to train a great many people for the generations of reactors to come in the future. We already have the personnel we need for the present. The only thing we need is to help them to adapt and transfer this technology in order to create the basic capability. That does exist. We have people working in thermoelectric and hydroelectric power plants. We must help them to adapt to nuclear plants."

Costa Alonso said that Mexico's engineering school graduates are suitable candidates for working on the nuclear program; he reiterated that it is simply a matter of training and organizing them.

Given Mexico's economic and financial crisis, he said, the problem we face is being able to maintain the basic infrastructure of research, development, and training of the human resources we have.

This, he concluded, will require a great deal of imagination on the part of our officials, as well as on the part of Mexico's researchers and scientists.

[19 Nov 82 pp 1-A, 10-A, 11-A]

[Text] Even though Mexico has the technological capability to produce uranium meeting international market specifications, it still has not done so. The uranium used in the reactors now in operation in Mexico, and which will be used in the Laguna Verde plant when it is operating, does not come from our national uranium mines.

To date, Mexico does not have a sufficient scientific, technological, industrial, and organizational base to enable us to undertake and carry out a program of the dimensions required to obtain 20,000 MW from nuclear power plants by the year 2000.

The federal government's energy commission, which is operating under the department of patrimony and industrial development, in a report on energy in Mexico, states that if we persist in this course, our national nuclear power program would simply become a direct import of "ready for use" plants, thus cancelling out the possibility of fully absorbing nuclear technology.

The report states that the problems we have had with the Laguna Verde project provide a good example of our limitations in undertaking an overly ambitious nuclear power program.

In addition, Mexico's difficult economic situation and the financing limitations of the electricity sector would seriously restrict our possibilities of financing a major nuclear program.

The report indicates that the need to urgently speed up the program to produce 20,000 MW by nuclear power at the end of this century seems to melt away when we consider the future behavior of domestic electricity demand, the possibility of developing other options to diversify our energy usage patterns, and when we consider determining the extent of our ample oil reserves.

These energy experts recommend that Mexico's nuclear power program for the next few years should be substantially reduced, and that it should proceed more slowly, than what would be involved in establishing at least 20 nuclear power plants.

In its first phases, such a development should not be based on the supposed urgency of energy diversification. This justification should rather come from strategic considerations of a scientific, technological, and industrial nature. In any case, the top priority is to build a solid and well organized base of human resources, properly trained so that we can pursue an even more ambitious nuclear power program in the future.

17 Plants in the Coming 6-Year Period

Based on the proposal to generate 20,000 MW from nuclear power, during the 1982-1986 period we would have to begin to build plants to generate 17,500 MW, including the two Laguna Verde reactors.

In just 6 years we would have to handle 17 nuclear projects of the approximate size of Laguna Verde, investing during this period at least $26 billion. And this does not include added costs for the development of the fuel cycle and preparation and training of personnel.

In documents published by the SEPAFIN [Department of Patrimony and Industrial Development], it is stated that "even though there is a great deal of talk about Mexico's potential in terms of uranium resources, the fact is that to date we have proven reserves that are just sufficient for the usable lifespan of the Laguna Verde reactors. This is in no way compatible with the goal of 20,000 MW by the year 2000, assuming that the national objective of energy independence remains in force."

Most Energy Comes from Hydrocarbons

The information contained in the studies prepared by the energy commission also indicates that Mexico's energy sector is dominated by hydrocarbons, which provide 90 percent of our energy.

Our crude and gas reserves--72 billion barrels--are sufficient for us to continue relying on these resources for a number of decades.

These experts feel that an appropriate recommendation for an energy policy would be to seek an energy usage pattern in relative proportion to our reserves. In that way, hydrocarbons should provide 85 percent; coal, 12 percent; and nuclear power, 3 percent, after deducting the amount provided by hydroelectric power and geothermal energy.

The report states that our exploration for energy resources has been dominated by a search for hydrocarbons. Geologists have reported favorable conditions in various parts of Mexico for the existence of oil and uranium, and also somewhat less favorable prospects for coal. Uranium exploration should be encouraged.

The experts are fully convinced that within several decades the only significant national option for replacing hydrocarbons in generating electricity will be nuclear power, and given the distribution of our primary energy sources, the long-term strategy should be an intensification of the level of electrification, in order to deemphasize the use of hydrocarbons in transport, industry, and heating.

They mention the fact that Mexico has already had its first experience in the field of nuclear power. They say that the difficulties found there should be analyzed if we want this energy source to play a significant role in the nation's future.

According to these experts, the most serious problem at Laguna Verde, as at most nuclear power plants in other countries which have had problems causing delays, was of an administrative nature. This is a large and complex project which needs special management techniques and trained personnel to operate it.

They expect that Laguna Verde will be in commercial operation sometime in 1985, "unless new complications arise during the process of completion. Even though this is not likely, the possibility can not be ignored. A comparison of this project with similar projects in other countries leads to the conclusion that we have learned to build nuclear power plants."

Mexico, in the opinion of these experts, can not allow itself the luxury of doing without nuclear power plants as a means of generating electricity. The need for energy diversification will lead us to a nuclear power program in order to ensure the future availability of energy.

7679
CSO: 5100/2014

NUCLEAR ENERGY PLANS WITH FRANCE

Paris AN-NAHAR ARAB REPORT & MEMO in English No 44, 20 Dec 82 pp 6-7

[Text] Egypt has ambitious plans to build nuclear power plants to meet its long term energy needs and reduce the burden upon oil as a source of electric power. These plans have progressed the farthest so far in dealings with France and negotiations are underway between the two countries for the purchase of two nuclear power plants. Egypt's Minister for Energy and Electricity Maher Abaza visited Paris last week for high-level talks on the deal and he spoke afterwards to *An-Nahar Arab Report & MEMO's* Randa Takieddine. The exclusive interview follows:

Q: What is your government's long term policy for energy, notably nuclear energy?
A: We have a very long term policy for energy. We have come to the conclusion that we should be obtaining our energy supplies at the end of this century from several different sources. We think we should be getting 40 per cent of our energy from nuclear plants by the year 2000, with hydro-electric power supplying another 15 per cent, 15 per cent from gas, 15 per cent from coal-fired power stations and the rest from oil. Our plans call for annual production of 100 billion kilowatt-hours of electricity at the end of the century, of which 15 billion kw-hours will come from hydro-electric power. This is because hydropower is limited and the maximum we can get from the Nile is 15 billion kw-hours. That leaves us with 85 billion kw-hours to be obtained from thermal plants.

It would not be fair to the country to burn millions of tons of oil to obtain that power so that is why we think that 40 per cent of our power should be coming from nuclear plants in the year 2000, another 15 per cent would be from coal and the same amount from gas, which we are already producing. That is our energy strategy until the year 2000.

Q: What will this policy for nuclear power mean in terms of specifics?
A: Our target is to have eight nuclear power stations, each with a capacity of 1,000 Megawatts. These will be normal PWR (pressurised water reactors) plants which are well known in France, in Germany and in the US. These are the best ones for us because a large number of reactors all over the world are PWRs. Our decision, therefore,

was to start with PWR plants. We are already negotiating with France to obtain two nuclear reactors.

Q: Isn't there a problem over financing the cost of these reactors from France?
A: It is not a problem any longer because the two units will cost approximately $ 2 billion (each). Between 20 and 25 per cent of this will be in local currency and will be funded 100 per cent by the Egyptian government: we have set up a fund into which oil revenues are being paid and this fund cannot be used for anything except nuclear energy. The fund has already reached $ 700 million and the Oil Ministry pays more and more into it each year.

We will be able to use part of this money to finance the two stations and there are discussions between the two countries to obtain bank financing. But nothing has yet been decided upon and we are still negotiating. We expect an offer to come from the French on March 15 from Eléctricité de France and we hope that by then everything will be clear about financing the two units.

Q: How do you replenish this fund for nuclear energy?
A: From oil revenues and from the budget. We think we can get between $ 200 million and $ 500 million a year from our oil revenues for this fund, which was set up last year and now has $ 700 million. By relying more on nuclear power, we will help reduce the amount of oil that is fired in boilers. That is our policy. The Ministry of Oil is thus interested in financing this so that we can reap the benefit after 20 years.

Q: You are also going to buy nuclear units from Germany and the US. Are there yet firm orders?
A: No. We have only signed political agreements with France, Germany, the US and Canada covering the peaceful use of nuclear energy. But at present there is no commitment to any country other than France.

Q: Where will the remaining six reactors come from?
A: No decision has been taken so far. We have a Supreme Committee on Energy which is headed by a Deputy Prime Minister and has a membership of 10 ministers, of whom I am one. We will discuss the matter and then get the approval of the Prime Minister and the President. So far, however, the only decision that has been taken concerns the French.

Q: Who were the French officials you met?
A: I met Jacques Delors, the Minister of Finance and Economic Affairs, Jean-Pierre Chévenement (Minister for Scientific Research), Edmond Hervé (Minister of Energy), Jacques Attali (economic adviser to President Mitterrand), EDF officials and officials from the Commissariat pour l'Energie Atomique. I am trying to gather all information possible concerning our project.

Q: What position did Mr Delors take over the question of financing?

A: I think we had good discussions on cooperation and that the positions were clear on both sides.

Q: Is it true that Arab money may help to finance these nuclear units?
A: Not yet, according to the information that I have

CSO: 5100/4601

VISITING IAEA CHIEF HOLDS DELHI PRESS CONFERENCE

Calcutta THE SUNDAY STATESMAN in English 19 Dec 82 p 1

[Text] NEW DELHI, Dec. 18--The International Atomic Energy Agency has expressed its dissatisfaction with the safeguard arrangements provided by Pakistan for that part of its nuclear programme which it had invited the agency to inspect.

The Director-General of IAEA, Dr Hans Blix, told a Press conference that since 1981 the agency had been holding discussions with Pakistan on improvements in safeguards. Most of the suggestions had been accepted. It had started its own fuel fabrication and since then IAEA had found the safeguards arrangement not satisfactory.

"We cannot assure ourselves that diversion (for non-peaceful purposes) is not taking place". Dr Blix said: "At the same time we have never said that diversion is taking place."

As far as India, and specifically the Tarapur plant was concerned, Dr Blix said that any further inspection would have to await a fresh request by the parties, to the trilateral agreement. No such request had been made so far but it was Dr Blix's view that such a request for inspection would be forthcoming.

It was also his impression that the IAEA would be requested to inspect the plant before French fuel supplies reach the plant.

Asked if there owuld be any change in the standards of safeguards with the substitution of of France for the USA, Dr Blix said that he expected the safeguards to continue as before. Answering further questions he said that the technical level of inspection in terms of equipment used, would be updated.

Dr Blix, who is here at the invitation of the Government of India, has already visited Trombay, the Tata Institute, the fast breeder reactor at Madras and the nuclear fuel installation in Hyderabad.

The Director-General paid compliments to the level of expertise achieved by India in the field of breeder technology. He said that India was among the very few countries which had gone in for breeder technology.

As regards inspection and safeguards he made it clear that the IAEA undertook inspection only at the specific request of any country and for specified plants. It had no power to impose sanctions. If any diversion did take place the inspectors report to the board of Governments.

In the installations which the IAEA had inspected in India, it had never any doubt that nuclear energy was being used for peaceful purposes.

Emphasizing the need to delink nuclear power and nuclear weapons, Dr Blix said that the fact that even nuclear powers like the USA, U.K., France and the lately the Soviet Union, had asked the IAEA for inspection of certain nuclear plants augured well.

About the need to ensure uninterrupted supply of nuclear fuel to plants in the developing countries engaged in using nuclear energy for peaceful purposes, Dr BLix said that it was the fuel supplying countries which often linked supplies to the signing of the nuclear non-proliferation treaty.

On the threatened withdrawal of the USA from IAEA, Dr Blix said that that would prove a great financial blow to the agency. However, he believed the whole issue was being reassessed by the USA.

The IAEA safeguards on Tarapur power reactor will not continue beyond 1993, Dr Hans Blix said, adds PTI.

CSO: 5100/7047

INDIA

'TIMES OF INDIA' INTERVIEWS IAEA CHIEF

Bombay THE TIMES OF INDIA in English 13 Dec 82 p 9

[Article by S. Balakrishnan]

[Text] BOMBAY, December 12.

THE International Atomic Energy Agency (IAEA) is negotiating with Pakistan for the extension of its inspection procedures to the fuel element fabrication facilities developed by Islamabad, according to the agency director-general, Mr Hans Blix.

He told "The Times of India" today that till now Pakistan had been importing the fuel elements. The development of the capability by it did not necessarily imply that it was on the way to acquiring weapon-grade material. Nevertheless, the agency's inspection and verification system was sought to be extended to the new facilities.

Mr. Blix, who is here on a week's visit at the invitation of the Indian Atomic Energy Commission, noted that New Delhi too had developed its fuel element fabrication facilities and it had agreed "in principle" to permit the agency's inspection. Details were being worked out.

Mr. Blix, elected director-general about an year ago for a four-year term, said the agency was constantly updating the technology employed in the inspection of various nuclear installations.

RIGOROUS INSPECTION

In its 25-year existence, the agency, which has an annual budget of $100 million, had detected hundreds of anomalies in the operation of nuclear installations. However, there had not been one case of diversion of fissionable material.

The inspection was "intrusive" and rigorous. The agency's suspicions could be aroused if a malpractice was sought to be indulged in by a member-country. Even though the procedures could not be said to be totally infallible, the possibility of mischief being not detected was remote.

Nevertheless, there was no stopping a nation bent upon acquiring nuclear weapons capability. The agency's inspection was done at the invitation of the nation concerned. Usually, the monitoring followed a tripartite agreement involving the supplying and receiving countries and the agency. The invitation of the agency was one of the means by which a nation could assure its neighbours of its peaceful intentions.

A noteworthy point was that a member-nation which had improved upon and extended its nuclear facilities originally acquired from abroad could decline to let the agency expand its area of operations. But the increasing number of signatories to the non-proliferation treaty was a positive sign. There were 118 signatories. Egypt and Vietnam might soon join the ranks.

In the case of Israel and South Africa, suspected to have nuclear weapons capability, the agency's inspection was confined to installations like reactors.

Regarding the Osirak reactor of Iraq which was destroyed in a pre-emptive strike by Israel, Mr. Blix said the Israeli suspicions were unfounded. Interestingly, China was not one of the members of the agency.

Asked for his comments about the U.S. house of representatives rejection of President Reagan's proposals on the MX missile system, Mr. Blix said he would prefer to be silent since it involved foreign policy issues.

On the nuclear disarmament talks, Mr. Blix, who was the legal adviser to the Swedish government on the issue, said one of the reasons for the stalemate was the absence of the means to ensure that the nations concerned fulfilled their obligations. The nuclear powers were obsessed with parity and it was difficult to find a formula to maintain the equilibrium.

However, the governments were under increasing pressure from the votaries of peace. Also, the grave burden the armament programme imposed on the economies was beginning to have its impact on defence policies, although not perceptibly, Mr. Blix added.

CSO: 5100/7043

INDIA

ATTRACTIVE TERMS OF SOVIET NUCLEAR OFFER TOLD

Madras THE HINDU in English 13 Dec 82 p 1

[Article by G. K. Reddy]

[Text] NEW DELHI, Dec. 12.

The Soviet Union is offering very attractive terms, including transfer of technology, for setting up giant nuclear power plants with capacities ranging from 500 to 1,000 megawatts.

As one of the more advanced countries that has mastered the technological complexities of nuclear power generation on such a big scale, the Soviet Union is prepared to let India have the benefit of the modular designs developed by its experts for building reactors and other equipment for these plants.

After the Chairman of the Atomic Energy Commission, Mr. H. N. Sethna, has had the necessary technical discussions in Moscow with Soviet experts, the Government will examine the financial aspects before a political decision is taken whether to accept the offer and enter into collaboration with the Soviet Union. Any such new agreement will attract comprehensive safeguards with both pursuit and perpetuity clauses, as was done in the case of the heavy water obtained from the Soviet Union.

The plant design and technology that Moscow is offering will be a light water type run with enriched uranium, like the U.S. built Tarapur plant. The Canadian-designed Rajasthan power plant and the ones that India is building at Kalpakkam and Narora are heavy water types which are fuelled by natural uranium.

Standardisation

The Indian policy hitherto has been to standardise the designs of all future nuclear power plants for operation with natural uranium, so that there will be no need for importing enriched uranium. If these plants could be run with Indian-manufactured heavy water and locally produced natural uranium fuel, the country's future power generation programme would not be subject to international safeguards, except in the case of the Tarapur and Rajasthan units built with U.S. and Canadian cooperation.

The Soviet Union, too, has been insisting on fuller safeguards on any materials or equipment supplied by it. But its policy is to let the recipient countries negotiate directly and settle the inspection terms with the International Atomic Energy Agency (IAEA) as an inescapable international obligation and not just an extension of a binding bilateral commitment.

An attractive feature of the new Soviet offer is that the transfer of technology would enable India to build an enrichment plant of its own, if it decides to do so in due course, to meet its fuel requirements through indigenous production, without depending entirely on imports. India could have designed and built a plant long ago using its own expertise without any outside assistance, but the Government then decided against it because of the heavy investment needed for acquiring this facility which would have had only a very limited use at that stage.

Political complications

But according to experts the capital outlay now would be considerably less in view of the vast improvements made in recent years in developing new technological methods for enrichment. If the decision is to continue importing the enriched uranium required for its power plants, India could still avail of the Soviet offer of technological transfer to improve the designs of the reactors and power generation and transmission equipment.

As the whole issue bristles with political complications, the Government is in no hurry to accept or decline the Soviet offer without a careful study of all the technological, engineering and financial aspects involved in opting for bigger nuclear power plants.

The experts have to examine how far this collaboration with the Soviet Union would help the country's fast-breeder programme which has been held up for want of proper fuel arrangements. It will take several months for the Government to arrive at the political level a well considered decision, one way or the other, after Mr. Sethna and his colleagues have looked into the technological aspects and made their recommendations.

As India stands fully committed to its policy of achieving complete self-reliance in the uses of atomic energy for peaceful purposes, any departure from the present policy of indigenously designing and running the new nuclear power plants with locally produced natural uranium must have its compensations in the long run. At the same time there should be enough flexibility for going in for more advanced technology within the framework of this policy, if it is easily available and does not involve acceptance of conditions that would come in the way of the country's quest for greater self-reliance.

CSO: 5100/7044

DAE PLANS TO SET UP EIGHT MORE NUCLEAR PLANTS TOLD

New Delhi PATRIOT in English 20 Dec 82 p 7

[Text] The Department of Atomic Energy (DAE) proposes to set up eight more nuclear power plants of 235 mw, each in the country, reports UNI.

At present out of the total installed capacity of 2270 mw, only 860 mw is operational. The proposed long-term programme envisages a capacity of about 10,000 mw to be operational by the turn of the century.

According to Director of Power Projects (engineering division) in DAE S L Katti, the 500 mw reactor, now in the design stage, is expected to be available some time in the nineties.

Writing in the latest issue of 'Nuclear India', Mr Katti says with the availability of significant quantities of uranium resources, India today is in a position to take up larger thermal reactor programme than what was initially envisaged.

Mr Katti called for adequate planning for recruitment and training, to avoid serious shortage of skilled manpower. Increased activity in the nuclear power development field required large manpower.

The Indian programme draws its manpower requirements through the training school at the Bhabha Atomic Research Centre. The manpower directly associated with design, construction, commissioning and operation of nuclear power projects in India has grown from a modest 300 in 1957 to about 2300 in 1981.

Discussing the energy problems Mr Katti points out that they are likely to be more severe because of the projected population growth rates of 2.4 to 2.7 per annum between now and the year 2000 as compared to 0.7 to 0.9 per cent projected for the industrialised world.

Mr Katti says by the year 2000 the world population is expected to increase from the present 4.2 billion to 6.4 billion of which developing countries would contribute about 80 per cent. As far as energy consumption is concerned, the share of developing countries was less than 15 per cent in 1972 and is expected to reach 25 per cent by the year 2000.

If developing countries were to use energy at the current per capita rates in the US, it would not be feasible by any way other than from large-scale development of nuclear energy. Mr Katti points out.

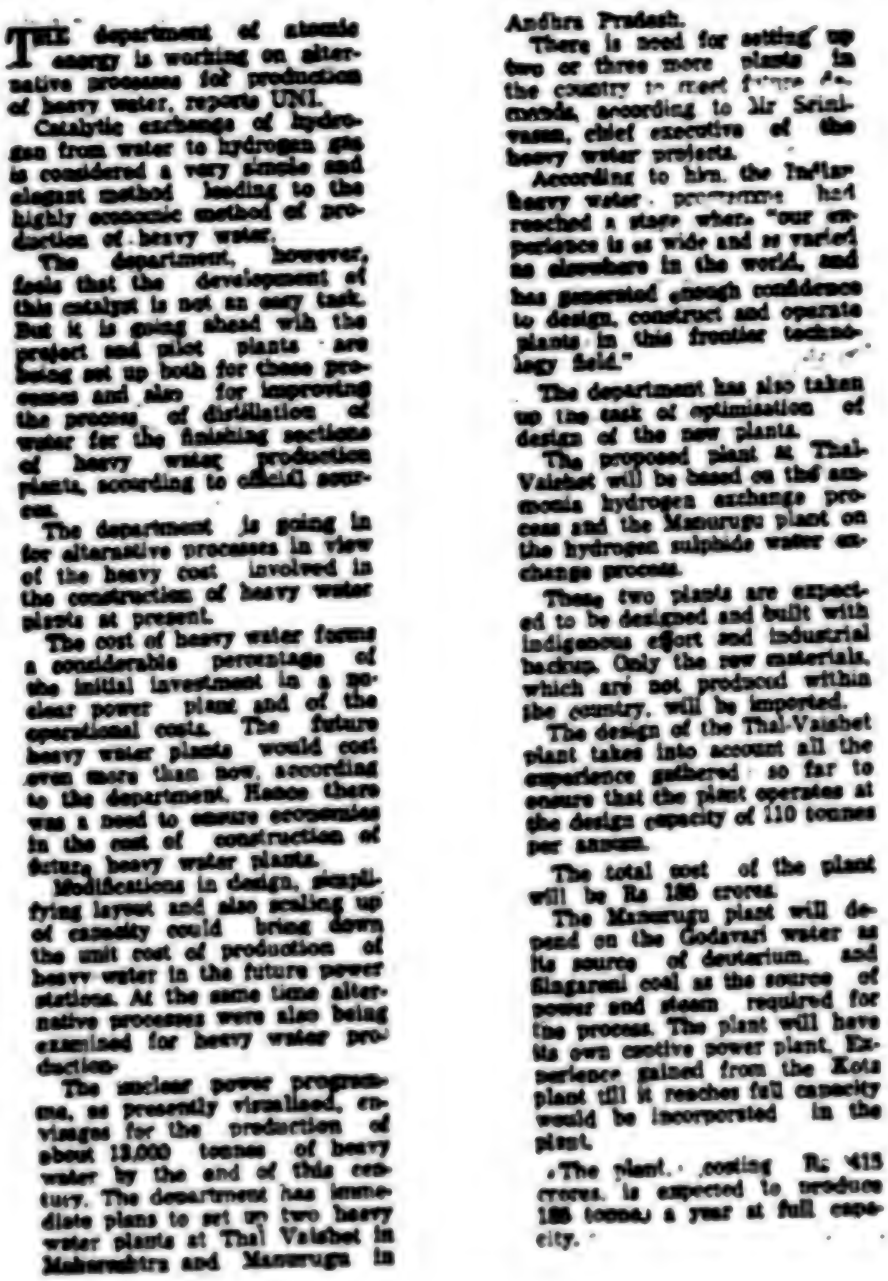
CSO: 5100/7046

INDIA

NEW HEAVY WATER PRODUCTION METHODS UNDER STUDY

New Delhi PATRIOT in English 18 Dec 82 p 5

[Text]



THE department of atomic energy is working on alternative processes for production of heavy water, reports UNI.

Catalytic exchange of hydrogen from water to hydrogen gas is considered a very simple and elegant method leading to the highly economic method of production of heavy water.

The department, however, feels that the development of this catalyst is not an easy task. But it is going ahead with the project and pilot plants are being set up both for these processes and also for improving the process of distillation of water for the finishing sections of heavy water production plants, according to official sources.

The department is going in for alternative processes in view of the heavy cost involved in the construction of heavy water plants at present.

The cost of heavy water forms a considerable percentage of the initial investment in a nuclear power plant and of the operational costs. The future heavy water plants would cost even more than now, according to the department. Hence there was a need to ensure economies in the cost of construction of future heavy water plants.

Modifications in design, simplifying layout and also scaling up of capacity could bring down the unit cost of production of heavy water in the future power stations. At the same time alternative processes were also being examined for heavy water production.

The nuclear power programme, as presently visualised, envisages for the production of about 13,000 tonnes of heavy water by the end of this century. The department has immediate plans to set up two heavy water plants at Thal Vaishet in Maharashtra and Manuruga in Andhra Pradesh.

There is need for setting up two or three more plants in the country to meet future demands, according to Mr Srinivasan, chief executive of the heavy water projects.

According to him, the Indian heavy water programme had reached a stage where "our experience is as wide and as varied as elsewhere in the world, and has generated enough confidence to design, construct and operate plants in this frontier technology field."

The department has also taken up the task of optimisation of design of the new plants.

The proposed plant at Thal-Vaishet will be based on the ammonia hydrogen exchange process and the Manurugu plant on the hydrogen sulphide water exchange process.

These two plants are expected to be designed and built with indigenous effort and industrial backup. Only the raw materials, which are not produced within the country, will be imported.

The design of the Thal-Vaishet plant takes into account all the experience gathered so far to ensure that the plant operates at the design capacity of 110 tonnes per annum.

The total cost of the plant will be Rs 185 crores.

The Manurugu plant will depend on the Godavari water as its source of deuterium, and Singareni coal as the source of power and steam required for the process. The plant will have its own captive power plant. Experience gained from the Kota plant till it reaches full capacity would be incorporated in the plant.

The plant, costing Rs 415 crores, is expected to produce 185 tonnes a year at full capacity.

CSO: 5100/7045

INDIA

WORK BEGINS ON REPROCESSING FACILITY AT KALPAKKAN

New Delhi PATRIOT in English 11 Dec 82 p 5

[Text] The Department of Atomic Energy has undertaken design work for setting up the country's third reprocessing facility to be located at Kalpakkam, near Madras, reports UNI.

This is to cater to the needs of the Madras atomic power plant and the fast breeder reactor, according to official sources.

There are at present too reprocessing units in the country. The reprocessing programme was launched with the design, construction and commissioning of the first facility at the Bhabha Atomic Research Centre (BARC). This was an entirely Indian project, right from the design stage and was designed to reprocess aluminium clad natural uranium fuel.

The second facility was set up at Tarapur for the reprocessing of the oxide fuels from the Tarapur and Rajasthan reactors. This plant is based on the purex solvent extraction process with a chop-and-leach head-end pretreatment stage. Except for the head-end cell which has provision for remote maintenance of in-cell equipment, the concept used for the rest of the plant is direct maintenance with remote decontamination facilities.

The performance of the reprocessing plant at Tarapur has been satisfactory in the operation of irradiated fuel.

As a prelude to utilising thorium for generation of power, a few aluminium-clad thorium and thoria fuel rods were irradiated on an experimental basis at BARC, and the spent fuel reprocessed in a pilot facility at BARC to separate U-233 (uranium). The flow-sheet adopted included chemical dejacketing at the head-end step followed by nitric acid dissolution and solvent extraction using three process.

Another field in which India has made considerable progress was radioactive waste management in which work on development of suitable treatment methods and safe disposal practices was initiated at BARC, much ahead of the nuclear power programme.

CSO: 5100/7042

'SOURCES' GIVE CLARIFICATION ON TARAPUR AGREEMENT

New Delhi PATRIOT In English 10 Dec 82 p 5

[Text]

OFFICIAL sources reiterated in the Capital on Tuesday that recent Indo-French agreement under which France will substitute the United States as fuel supplier for the Tarapur plant was free from two additional safeguards insisted upon by it earlier—namely "pursuit and perpetuity", reports UNI.

This clarification was provided in the context of a statement made by BJP leader A B Vajpayee in Goa on Wednesday that even after the expiry of the Indo-US agreement in 1993, within whose framework the French are making the supply, Paris could have a say in regard to the reprocessing of the spent fuel at Tarapur.

The sources drew attention to the relevant paragraph in the Indo-French agreement concluded on the midnight of 27 November to substantiate the point.

The para reads: "During the life of the 1963 agreement the 30-year Indo-US treaty on Tarapur, France and India shall consult with a view to agreeing on the arrangements to ensure the implementation as may be necessary of the provisions of the preceding paragraphs."

The preceding relevant paragraph says "This commitment to supply fuel in place of the US shall be subject to the safeguards provided for in the 1963 agreement between India and the IAEA."

According to these sources, this only meant that instead of the US, the IAEA will monitor the safeguards of the Tarapur plant to ensure that the fuel was not being utilised for manufacture of nuclear weapons but only for peaceful purposes.

So far as reprocessing of the spent fuel from the American supplies is concerned, France would have nothing to do with the matter. In this case, while the US continues to insist that even after the 1971 trilateral agreement, its consent is necessary for reprocessing. India has intimated Washington its disagreement with this interpretation.

It maintains that the Government has the exclusive right to reprocess the spent fuel and "no joint determination" is called for after the 1971 agreement under which the monitoring responsibility was transferred to the IAEA.

As for reprocessing of the spent fuel from the French supplies, its Foreign Minister Cheysson had made it clear during his press conference in New Delhi a few months ago that it would not insist on any "joint determination."

No consultations are envisaged between India and France in regard to any matter after the expiry of the 1963 Indo-US agreement in 1993.

As for the US, it wants that the safeguards and obligations governing the Tarapur plant should continue even after 1993. But India has firmly told the US that all these would lapse at the end of the treaty.

While the question of "perpetuity" does not thus exist, the "pursuit" controversy is irrelevant in the case of Tarapur since India has already assured the US in 1974 that it has no intention to transfer material from there to any other plant, the sources explained.

CSO: 5100/7041

EYTAN WARNS OF POOR DEFENSES AGAINST NUCLEAR ATTACK

Tel Aviv MA'ARIV in Hebrew 5 Dec 82 p 3

[Article: " 'Raful': It Is Possible That Within This Decade We Will Have to Face the Problem of Nuclear Weapons"]

[Text] Chief of Staff Maj Gen Rafael Eytan said on Friday that the issue of nuclear weapons constitutes a serious problem in the region, and that it is possible that by the end of the 1980's or the end of the century Israel will again have to deal with this problem, because the Arabs want to develop nuclear weapons, which for Israel would be intolerable.

The chief of staff appeared at the Engineering Club of Tel Aviv and answered many questions asked by the audience. He avoided answering questions on issues which are being dealt with by the Investigating Committee.

The chief of staff said that had Israel not destroyed the Iraqi nuclear reactor in Baghdad, the Iraqis would have obtained nuclear weapons in the middle of 1983.

He added that the Americans and the Soviets are taking pains so as not to enable such countries to achieve the development of nuclear weapons. But the French, the Italians, and the Dutch aided in the development of the reactor in Baghdad, and they were in the process of installing equipment which would have enabled the development of nuclear weapons. The chief of staff said that the world had viewed the Israeli action with covert satisfaction, because there was no other way to stop the progress of the development of the reactor.

The chief of staff added: "If they get nuclear weapons, we will have no defense and no ability to absorb a strike, especially since we live in a small area with a dense population".

In response to another question, he said that the fact that the youth do not want to study technological studies constitutes a problem for the next 50 years. Technological level is part of the gap between Israel and the Arab countries. The unwillingness of youth to study technology could adversely affect the IDF which is an advanced army with an advanced technology, both in means of warfare and in their maintenance. In order to deal with this problem, the IDF maintains technical schools in which youth study, and when they are drafted into the army, they perform the skills which they have learned. The IDF also supports youngsters who study in this field but are not within the framework of the army. Still, the IDF has problems with youngsters who studied at technical schools, but who when drafted want only to serve in combat units, and do not want to be technicians.

Regarding political debates within the IDF, the chief of staff said that they exist since the war in Lebanon was the subject of dispute, but he does not feel that the disputes affect the morale of the units or the will to serve.

The chief of staff said that there will never again be in Lebanon what there was — a kind of Palestinian state — and there will never be disturbances from Lebanon on the northern border of Israel. The chief of staff said that if the two conditions which he mentioned would be met, then Israel would be able to evacuate Jebel Baruk. He added with a laugh: "When the Israelis hold a good place, they do not want to come down from it, but prefer to move up to a better place".

Regarding the strife between the Druse and the Christians, the chief of staff said that it is a complicated matter whose roots go back to the preceding century. Although the leaders do not want these clashes, they cannot prevent them. The Lebanese army is still unable to impose order in such places, because it itself is composed of soldiers of different ethnic backgrounds. "I do not know what solution will bring an end to the clashes, but we are not there to impose order between the communities; rather, we are there to achieve the conditions of order and security for Israel," he said.

The chief of staff gave assurances that the IDF had returned to its system of saving and seriousness. Waste is being checked today. A unit moves through the army and collects excess food, thereby saving tens of millions of shekels. The IDF has also decided not to call up reservists beyond a certain limit of days, and the burden falls upon the regular army.

"Raful" also mentioned that they laughed at him when he demanded efficiency and economy, especially when he requested the collection of napsacks. But in this way, millions of shekels were saved.

As for settlements in Judea and Samaria, he said that this is a security condition for the existence of the country, and that without Judea and Samaria, we would be unable to defend the country. "This is my professional opinion from the military aspect, and this does not refer to politics," the chief of staff noted.

7075
CSO: 5100

PAKISTAN PAPER ON URANIUM FINDS, U.S. EXPERTS

GF180705 Karachi JASARAT in Urdu 13 Jan 83 p 3

[Editorial: "Uranium and American Experts"

[Text] According to a report, uranium deposits have been discovered around Dera Ismail Khan. This is very good news indeed. However, there is bad news attached to this. The bad news is that the officials of a certain American company are showing interesting in mining the uranium, and are at present visiting the uranium deposits area. We call this bad news because the presence of Americans in the uranium bearing areas is dangerous in itself. Moreover, the United States has been showing belligerency toward the peaceful atomic program of Pakistan. Therefore, it is bad policy to allow Americans to roam free in the area where this metal, so essential to the atomic development program, is found, and it is certainly against our national dignity.

Uranium is a very precious commodity used in the development of atomic energy and is one of the very rare metals found on this earth. The find in Pakistan is no less than a blessing from God. We should make full use of this gift in developing our atomic energy program. But there is a devil in the head of America. It wants the monopoly of being an atomic power to remain with itself or with its adopted ones. It is opposed to atomic development in Pakistan and is urging other countries to prevent the development of atomic technology in Pakistan as well. It was because of American pressures that we could not get an atomic reactor from France, although an agreement to this effect had been signed with that country.

During the recent visit of President Ziaul Haq to the United States, the most aggressive questions were asked about Pakistani efforts to acquire atomic energy. It was as though our efforts to develop atomic energy are a heinous crime indeed. The United States has not objected to such acquisition by Israel, South Africa, Brazil or India. In fact, the United States has been supplying India with uranium. France is also deeply involved in atomic cooperation with India. The United States has no objection to that. It is not insisting on international supervision of atomic installations in India as in the case of Pakistan. In these conditions we consider it highly injurious to our national self-respect that Americans are allowed to visit our uranium deposits. Under the circumstances, we demand that the government take the public into its condifence in this matter of involving the Americans. If this is not done it will be considered a folly and a conspiracy similar to that of Zulfiqar Ali Bhutto when he was minister for mines and industries, and gave a contract for finding oil in Pakistan to the Russians. The Soviets, by taking full advantage of this folly or conspiracy, not only gathered all information regarding the mineral resources in Pakistan but also used the opportunity to make a military topographical survey of all of Pakistan. The Russians made expert use of the results of that survey during the 1971 war and succeeded in disintegrating Pakistan through helping the Indians and the Mukti Bahini insurgents in their campaign against this country. For this reason we consider the access of the Americans to the deposits of this national wealth as dangerous to our security and national solidarity and dangerous to our economic well-being and defense planning. We demand that even if Pakistan is not in a position to exploit the uranium deposits on its own, it must not seek cooperation from the Americans in this sensitive matter and the Americans should be ousted from Dera Ismail Khan.

CSO: 5100/4702

CHASHMA NUCLEAR POWER PLANT PLANNED, AMERICAN OPPOSITION CRITICIZED

Lahore NAWA-I-WAQT in Urdu 6 Dec 82 p 3

[Text] The Chairman of the Nuclear Energy Commission, Mr. Munir Ahmad Khan, said in a press conference that more than a dozen foreign firms, including American firms, have been asked to return tender proposals for a 900 megaton nuclear power plant in Chashma. These will be received by 30 April 1983. After that about six months will be spent in discussion of the details, and construction will begin in early 1984. It is worth mentioning that it was on 1 December that the foreign firms were asked to return tender proposals, but it was announced one day before President Ziaul Haq was to go to America. It is America which is foremost in placing obstacles in the way of Pakistan's acquiring nuclear technology, and it was because of American pressure that France did not implement its official understanding for that reprocessing plant which was to supply fuel for the needs of the Chashma nuclear power plant, and for which the French experts had already begun initial work on the site. Now too the first protest after Pakistan sought tender proposals has come from America, whose Secretary of State George Schultz has stressed to Western countries that they should not sell Pakistan a nuclear reactor.

Mr. Munir Ahmad Khan has made it clear in regard to the urgent need for nuclear power due to an increasing need for electricity that by the end of this century Pakistan will need to install not one but six nuclear power plants like Chashma. He also said that the International Atomic Energy Agency will have full authority over the above-mentioned plant at Chashma. This agency had also been given the right to oversee the reprocessing plant. In fact it was only on the basis of these safeguards that France had reached an agreement. But America had considered this safeguard insufficient and had stopped France from implementing one of its own international agreements.

The above-mentioned speech of the American Secretary of State clearly indicates that there has been no change in the American policy of opposition to Pakistan's peaceful nuclear program. At any rate, we should hope that in his discussions with the American authorities President Zia will make a wholehearted effort to give them a feeling for the nature and importance of Pakistan's need in regard to nuclear power. To a great extent, it would be false optimism to expect any immediate change in the rigid position which America has taken on this matter since the time of President Ford, but the way in which America has made Pakistan, and only Pakistan, the target of its rigid policy on this matter is synonymous with opposition for the sake of opposition. Countries like Israel, South Africa, India, Brazil, etc. are far ahead of Pakistan in their efforts to obtain nuclear technolgoy. It is even said of Israel and South Africa that they have built an atomic bomb, and India had produced a nuclear explosion in May, 1974; but America is not only looking the other way in this matter, but is also indirectly assisting them. It was America which, during the Indian Prime Minister Indira Gandhi's visit to America a short while ago, cleared the path for the agreement which France has recently signed in Delhi to provide additional fuel for India's Tarapur plant even without safeguards.

America and other Western circles are very vexed that Pakistan expresses its impression that its peaceful nuclear program is opposed only because it is an Islamic country, and the Western countries do not want the Islamic world to gain control of modern sources of power by means of Pakistan. But the people of Pakistan cannot call this impression completely without basis either, because of the way in which the Western countries are blowing hot air over Pakistan's extremely limited nuclear program, calling it an "Islamic bomb." The way in which the American Secretary of State has now expressed open opposition the moment Pakistan asked for a tender proposal naturally further supports this impression on the part of the people of Pakistan.

This truth will become clear in late April 1983, when we see that results from the tender proposals Pakistan has requested for its nuclear electricity plant. America has an unusual amount of influence on the Western countries, and that a country like France which claims independence (from America) would deny its international agreement in regard to a reprocessing plant because of American pressure is an obvious proof of American's influence. But basically, the "conscience of the West is commercial." President Reagan himself lifted the ban on selling grain to the Soviet Union which his predecessor the former President Carter had established in retaliation for the Soviet Union's invasion of Afghanistan. The only reason for this was that American business interests had begun to suffer from this ban because the Soviet Union had begun to fill its needs from Argentina, Brazil, Canada, etc., and the American ban was proving a golden opportunity for them. America had also banned the supply of machinery and technology for the Soviet Union's Siberian gas pipeline too, because of the problem in Poland, but France, England, Italy, etc., refused to bow their heads before America's powerful pressure in this matter, to the extent that America was forced to lift this ban in its own business interest.

Although it will be considered false optimism to suppose that other Western countries will not join in America's opposition to supplying Pakistan with nuclear equipment, the real problem is how serious and steadfast Pakistan will manage to be in putting its plan into practice, and how and to what extent other Islamic countries will support and second Pakistan's goal in order to make the American opposition ineffective.

9914
CSO: 5100/4313

COUNTRY'S POLICY, STAND ON NUCLEAR PROGRAM SUPPORTED

Islamabad THE MUSLIM in English 21 Dec 82 p 4

[Editorial: "No Compromise on Nuclear Programme"]

[Text] DESPITE all the effusiveness demonstrated by our powerful friends across the Atlantic and the facade of goodwill maintained by those on this side of that expansive ocean, there appear to be a few hidden hands determined to foil Pakistan's efforts to acquire the necessary technology and material needed to operate this country's nuclear facilities. And that in spite of our avowed objective to develop technology to meet the nation's energy needs. President Zia has repeatedly been trying to dispel any misgiving that might be lurking in any quarter of the world that Islamabad may secretly be trying to steal into the nuclear club by hammering in the assurance that we have no desire whatsoever to produce atomic weapons. And yet, a BBC report appearing in the Press on Friday said that the Director General of the International Atomic Energy Agency (IAEA) had observed at the end of his visit to New Delhi that he was not fully satisfied with the arrangements made by Pakistan to prevent fuel from its nuclear power stations being used in the production of nuclear weapons.

It is ironical that the IAEA chief should have made this comment on the eve of his departure from a country which had already exploded a nuclear device, and was well on its way to join the ranks of nuclear powers. What exactly the Director-General of the International Agency meant by his statement that this country had agreed to some safeguards but was still to agree to others, is not known to us. If this reference was to the additional safeguards desired only to be forced upon Pakistan, while this insistence was not being made applicable to others, we can only invite his attention to President Zia's statement made in the course of an interview given to UPI towards the end of the last month. He had said that when India, Israel, Japan, South Africa and Brazil with their nuclear potential were not being pressurised, he would not accept additional safeguards if only Pakistan was singled out for this discriminatory treatment. But if the same yardstick were to be used in the case of every country which has nuclear installations, Islamabad would, in fact, even accept more safeguards than the others.

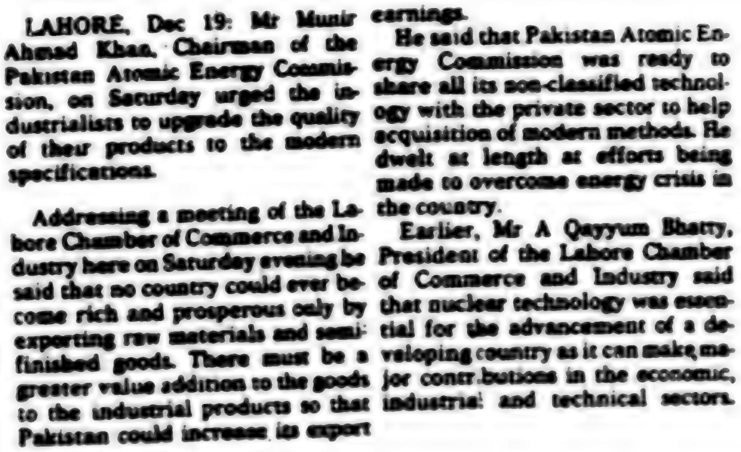
President Zia reiterated his commitment to pursue Pakistan's peaceful nuclear programme geared to produce the much needed energy for rural electrification and to expand the country's industrial base. He said in Toronto only the other day that his government was determined to acquire nuclear technology and said that he had made this position clear to the Canadian leaders during his talks in Ottawa. If Pakistan could not acquire nuclear technology through co-operation, he firmly asserted that it would develop that technology through indigenous means. We have enough uranium and are not without the technical know-how. To the Canadian offer made by its administration officials that Canada would resume supply of fuel and spare-parts for the Karachi reactor if Pakistan signed the Non-Proliferation Treaty. President Zia told newsmen in Toronto that Pakistan would do so if India also signed the Treaty. No one in this country would want Pakistan to compromise the country's self-respect by meekly accepting a unilateral all discriminatory decision that is sought to be enforced on us.

CSO: 5100/4701

ATOMIC ENERGY COMMISSION TO PROVIDE TECHNOLOGY TO PRIVATE SECTOR

Karachi DAWN in English 20 Dec 82 p 5

[Text]



LAHORE, Dec 19: Mr Munir Ahmad Khan, Chairman of the Pakistan Atomic Energy Commission, on Saturday urged the industrialists to upgrade the quality of their products to the modern specifications.

Addressing a meeting of the Lahore Chamber of Commerce and Industry here on Saturday evening he said that no country could ever become rich and prosperous only by exporting raw materials and semi-finished goods. There must be a greater value addition to the goods to the industrial products so that Pakistan could increase its export earnings.

He said that Pakistan Atomic Energy Commission was ready to share all its non-classified technology with the private sector to help acquisition of modern methods. He dwelt at length at efforts being made to overcome energy crisis in the country.

Earlier, Mr A Qayyum Bhatty, President of the Lahore Chamber of Commerce and Industry said that nuclear technology was essential for the advancement of a developing country as it can make major contributions in the economic, industrial and technical sectors.

CSO: 5100/4701

WORRIES ABOUT SAFETY OF KOEBERG PLANT VOICED

Johannesburg THE STAR in English 21 Dec 82 p 26

[Editorial: "Early Warning at Koeberg"]

[Text] THE sabotage at the Koeberg nuclear plant may well turn out to have had effects shich are symbolic and psychological rather than tangible. Official accounts are at sharp variance with the version of the ANC in Dar es Salaam, which speaks of "heavy damage" to the reactor plant. Escom officials speak of limited damage--amid a great initial blurring of the facts. Yet whatever the case, it is incontrovertible that the four blasts represented a skillful and bold attack on a high-profile--although not yet secure--target. It is a matter of deep concern to the whole country.

Irrespective of political considerations Capetonians have long had their own particular worries about the Koeberg plant, sited only 40 km from the centre of their city, and of the likely dangers in the event of a nuclear mishap. The blasts have raised doubts all over again on two scores. First, the public and the health authorities must be satisfied that emissions under normal conditions are harmless, and that an adequate emergency plan exists--before the reactors are started.

Secondly there is the question of direct security measures to make the area impregnable to saboteurs. Koeberg's No 2 reactor is due to come on stream only by late 1984. While work is still proceeding there will be large numbers of workers coming on to the site daily, some of whom might be saboteurs. Under these conditions, is it possible to guarantee the 100 percent security that is needed? If not it may be necessary to delay the switch-on of even the No 1 reactor until this danger can be eliminated. If that is counted as yet another psychological victory for the ANC, so be it. It is better than a Three Mile Island episode on Cape Town's doorstep.

In highlighting so graphically the dangers of South Africa's first nuclear power station, the ANC might even be reckoned indirectly to have performed a service. it has also demonstrated security weakness which must be plugged, here as at other key installations around the country. And apart from any immediate countermeasures, the incident emphasises once again that a rising level of sabotage can be expected in coming years...until South Africa acts decisively to defuse its basic "bomb" of political injustice.

CSO: 5100/14

BRIEFS

KOEBERG SECURITY--Perhaps because it coincided with their preoccupation with the Christmas rush season, the latest incident at the Koeberg nuclear power station--by far the most serious of a whole series in recent months--has not upset Cape Town people as much as one would have expected. Far more innocuous breaches of the security system at the site gave the whole town the jitters. Yet the bomb explosions in the new, ANC-attributed sabotage attack, within months of the nuclear plant's reactors becoming "critical" has been shrugged off almost fatalistically. Within a few days the bombing was no longer even a talking point. The expected flood of alarmed letters to the editor was hardly more than a trickle, and quickly fizzed out entirely. It's uncanny. Local authorities, emergency services and politicians, however, have remained stoked up and vociferous in their warnings and criticism of the security breaches, although, sensibly, nobody has pressed the panic button. Now surely, people here reason, those responsible for guarding Koeberg have got the message. Call in the army, one letter writer suggested. No doubt security will be tightened up substantially when the plant goes on stream in the early part of next year. The million people who live or work relatively near the nuclear station will be over their seasonal madness by then and more aware of the potential time-bomb ticking away on their doorstep. [Text] [Johannesburg STAR in English 27 Dec 82 p 8]

CSO: 5100/14

FRENCH, BELGIAN, SPANISH ACCORD ON EURODIF ENRICHMENT PLANT

Paris JOURNAL OFFICIEL DE LA REPUBLIQUE FRANCAISE in French 13 October 1982 pp 3059-3061

[Decree N° 82-869 of 5 October 1982]

[Text] Ministry of Foreign Relations

Decree No 82-869 of 5 October 1982, concerning the publication of the convention signed in Paris on 20 March 1980* by the Government of the French Republic, the Government of the Kingdom of Belgium, and the Government of the Kingdom of Spain concerning EURODIF [European Diffusion Agency] (with an appendix).

The President of the Republic,

Considering the report of the prime minister and of the minister of foreign relations,

Considering Articles 52-55 of the Constitution;

Considering Law No 80-870 of 5 November 1980 providing for approval of the intergovernmental convention concerning EURODIF;

Considering Decree No 53-192 of 14 March 1953 concerning the ratification and publication of international agreements signed by France,

Decrees:

Article 1. The convention signed in Paris on 20 March 1980 by the Government of the French Republic, the Government of the Kingdom of Belgium and the Government of the Kingdom of Spain concerning EURODIF (with an appendix) shall be published in the JOURNAL OFFICIEL DE LA REPUBLIQUE FRANCAISE.

Article 2. The prime minister and the minister of foreign relations shall be responsible for the implementation of the present decree.

---

* According to the provisions of its Article 21, this convention became effective on 25 July 1982.

Made in Paris, on 5 October 1982

Francois Mitterrand

By the President of the Republic:

The Prime Minister, Pierre Mauroy	The Minister of Foreign Relations, Claude Cheysson.

Convention

between the Government of the French Republic, the Government of the Kingdom of Belgium and the Government of the Kingdom of Spain, concerning EURODIF

The Government of the French Republic, the Government of the Kingdom of Belgium and the Government of the Kingdom of Spain,

Considering that they attach great importance to the development of peaceful applications for nuclear energy,

Considering that the development of civilian nuclear power plant programs in Europe and outside Europe requires the creation of considerable enrichment capacities,

Considering that a cooperation has been undertaken for this purpose, using EURODIF as a framework,

Considering that the French Government has given its guarantee that the construction of the Tricastin plant--which has been approved by the aforesaid governments--would be completed,

Considering the contributions they have already made or are prepared to make to finance this operation,

have agreed as follows:

Article 1

The object of the present Convention is to define the rights and obligations of the partner States which have an interest in the capital of EURODIF, either directly, or indirectly through public or private artificial persons finding themselves under the jurisdiction or control of said partner States.

Title 1

Financial and Fiscal Provisions

Article 2

The fiscal provisions mentioned under this title shall be understood to be those of French fiscal legislation and regulations, or any such provisions which might complement or replace provisions now in force.

Article 3

Cash contributions to EURODIF shall be exempt from any tax on contributions, in particular the tax mentioned in Article 810-I of the General Tax Code.

Article 4

Non-chargeable value-added-tax tax credits shall be reimbursed monthly to EURODIF in connection with any payment pertaining to the construction of the Tricastin plant.

Article 5

1. The profits made by EURODIF shall be exempt from the corporate tax in proportion to the contributions made by foreign partner States in its capital.

2. Without prejudice to Article 223-sexies of the General Tax Code, the French Government shall reimburse EURODIF all sums paid as corporate tax as a result of the French State's participation.

Article 6

1. Foreign public shareholders of EURODIF coming under foreign States party to this Convention shall be exempt from income tax with respect to the income resulting from their participations in EURODIF or from funds made available to said company, under the following conditions:

a) The amounts distributed by EURODIF as remunerations for foreign public participations in the company's capital shall be exempt from the withholding tax provided for in Article 119-bis-2 of the General Tax Code. In addition, the provisions of Article 209-bis-I and 223-sexies of the General Tax Code, concerning tax credits and deductions, shall not apply to such distributions.

b) Interests on loans or advances granted to said company by its foreign public shareholders shall be exempt from the mandatory tax and, as the case may be, from the withholding tax mentioned in Articles 125-A-III and 119-bis-I of the General Tax Code.

2. The foreign public shareholders of EURODIF shall have the privilege of repatriating their dividends, and the advances and loans made when these become due, as well as the interests received on these advances and loans.

Article 7

For the purposes of Articles 5 and 6, foreign public participations in the capital of EURODIF shall be understood to mean direct participations by foreign States in the capital of said company, or in the capital of French companies which are shareholders of said company, to the extent of the interest they hold in said company; these participations may be in the name of organizations or public institutions in these States, or in the name of companies in which these States, organizations or institutions own at least 50 percent of the voting rights.

Article 8

Payments made by EURODIF in remuneration of foreign loans obtained to finance construction of the Tricastin plant shall be subject, during their full term, to the tax regulations now in force concerning income from foreign securities.

Article 9

The restriction on the "carry forward" time limit provided in Article 209-1 (2nd paragraph) of the General Tax Code shall not apply to the deficits suffered by EURODIF during accounting periods closed prior to the date of completion of the Tricastin plant.

Article 10

1. Concerning the Tricastin plant and the power plant supplying it with electricity, the rental values used as a basis for local taxes shall be taken into account to the extent of only half their amounts, without prejudice to the common-law allowance applicable to nuclear plants.

2. The basis for the professional tax--reduced as mentioned in paragraph 1 above as far as rental values are concerned--shall be reduced by half:

- for EURODIF, to the extent that it owns and operate the Tricastin plant;

- for the French Electric Company, to the extent that it owns and operates the power plant supplying electricity to the Tricastin plant.

This reduction shall remain in effect for 10 years starting 1 January 1982, at the Tricastin plant and at the nuclear power plant.

3. With respect to the land tax on structures, the same reduction shall apply for the same period of time starting 1 January 1982.

4. The Tricastin plant and the power plant supplying it with electricity shall be exempt from local taxes until 31 December 1981. However, EURODIF shall make an exceptional lump-sum payment amounting to a total of 50 million francs to certain local communities, the names of which shall be indicated to it; this amount shall be paid at the rate of one third each year in 1979, 1980 and 1981.

Article 11

The fiscal provisions in favor of EURODIF contained in this Convention shall also apply to any operating subsidiary EURODIF may create to operate the Tricastin plant, provided that EURODIF owns at least 99 percent of said subsidiary, and provided that said subsidiary is merely a management company and does not own the Tricastin facilities.

Article 12

Each of the partner States, in proportion to its direct or indirect participation and/or to the direct or indirect participation of shareholders coming under its jurisdiction or under its control, agrees to provide its guarantees, or equivalent guarantees, under its domestic laws, for the loans made to complement the resources already secured by EURODIF to finance the construction of the Tricastin plant; it is understood that the total commitments thus incurred with respect to EURODIF shall not exceed the equivalent of 4.3 billion French francs.

Should one of the shareholders withdraw, the partner State concerned shall remain bound by the commitment defined in paragraph 1 of this article, unless this commitment is assumed by the Government under the jurisdiction or control of which the new shareholder shall happen to be.

Title II

Miscellaneous Provisions

Article 13

1. The Parties agree to take all measures to prevent all sensitive data,* equipment, basic products and special fissile materials which may be in their possession or in the possession of enterprises coming under their jurisdiction or under their control, for the purpose or as a result of the construction or operation of the facilities agreed upon in EURODIF, from being used by any State not already equipped with nuclear weapons to manufacture or otherwise acquire nuclear weapons or other explosive nuclear devices, or to obtain control over such weapons or devices.

For the purposes of this article, a "State not equipped with nuclear weapons" shall mean any State, including the States having signed this Agreement, that shall not have manufactured or caused the explosion of a nuclear weapon or any other explosive nuclear device prior to 1 January 1967.

2. In addition, the facilities built by EURODIF shall not produce uranium with the degree of enrichment required to manufacture nuclear weapons, with a view to manufacturing nuclear weapons or other explosive nuclear devices.

Article 14

In order to ensure that all obligations resulting from Article 13 of this Convention concerning equipment, basic products and special fissile materials are complied with, all States not equipped with nuclear weapons and which, as a result of the operations of EURODIF, shall have at their disposal or receive either basic products or special fissile materials, or equipment or implements specially designed or prepared for the treatment or implementation of such products or materials, shall first--unless they have already done so--adopt adequate control measures according to AIEA [International Atomic Energy Agency] procedures, due account being taken of their respective international obligations.

---

* Sensitive data shall be understood to mean all data declared to be such from the point of view of non-proliferation by the party making them available.

For States which are members of the European Atomic Energy Community, these measures shall include control by EURATOM [European Atomic Energy Commission], which shall be supervised by AIEA.

Article 15

The Parties agree that all sensitive data, equipment, basic products and special fissile materials mentioned in paragraph 1 of Article 13 shall not be transferred or returned to anyone on the territory of a State not equipped with nuclear weapons as per Article 13, unless that State first agrees to the conditions to which the Parties have agreed, as per Articles 13 and 14.

Article 16

On their territories as well as in the event of a shipment outside their territories, the parties shall take all measures necessary to ensure effective physical protection of the nuclear materials forming the object of this Agreement.

The minimum joint levels of physical protection provided for by said measures shall be determined in a separate Agreement.

Article 17

This Convention does not alter the obligations resulting from the Treaty establishing the European Atomic Energy Community (EURATOM) for the Parties to this Convention which are member of said Community.

Article 18

The Parties to this Convention shall be free at all times to suggest amendments to it.

In that case, representatives of the Parties shall meet to consider the proposed amendment.

Adoption of an amendment shall require the acceptance and approval of each and all of the Parties; the French Government, depositary of this Convention, shall be informed of their approval.

The amendment shall come into force 30 days after the last written notification shall have reached the French Government.

The French Government shall immediately inform all other parties of the date on which the amendment comes into force.

Article 19

Should a dispute arise between the Parties concerning the interpretation or implementation of this Convention, the Parties shall attempt to reach an amicable settlement.

Should it prove impossible to reach an amicable settlement:

a) All disputes concerning the provisions of Articles 13 and 14 shall be settled according to the procedures contained in the guarantee agreement signed with AIEA;

b) All disputes concerning other provisions of this Convention shall be settled by arbitration, at the request of any one of the Parties to the dispute, under the conditions outlined in the appendix to this Convention, unless said Parties agree among themselves on another method of settlement.

The appendix mentioned in the above paragraph forms integral part of this Convention.

Article 20

In any case and under any circumstances, the provisions of Articles 13, 14, 15, 16 and 17 shall remain in force with respect to all equipment, sensitive data, basic products and special fissile materials mentioned in the paragraph of Article 13 and originating from EURODIF.

Article 21

This Convention shall come into force in each of the States having approved or ratified it one month after the third approval or ratification instrument, not excepting that of the French Government, has been received by the French government. However, the fiscal provisions of this Convention shall apply starting with the date of creation of EURODIF.

The French Government shall immediately inform the other States having signed this Convention of the receipt of each of the approval or ratification instruments and of the date of effect of this Convention.

Article 22

This Convention shall remain open and any State having acquired or wishing to acquire an interest in EURODIF, under Article 1, may apply to do so. Its adhesion must be unanimously approved by the States which shall be part to this Convention on the date of its application.

Article 23

Without prejudice to the provisions of Article 20 above, this Convention shall be terminated when EURODIF shall expire. However, without prejudice to the provisions of Article 20, should said company be dissolved, this Convention shall end on the date of such dissolution.

In witness thereof the duly appointed representatives of the States party to this agreement have signed the present Convention.

Made in Paris, on 30 March 1980, in three copies in the French, Spanish and Dutch languages, all three texts being equally authentic.

For the Government of the French Republic:
Bruno de Leusse de Syon.

For the Kingdom of Belgium:
Baron Maternotte de la Vaillee.

For the Kingdom of Spain:
Miguel Solano Aza.

Appendix

a) Should a dispute such as mentioned in Article 19, paragraph b, arise between two parties, it shall be submitted to an Arbitration Commission consisting of three arbitrators. Said arbitrators shall be appointed as follows:

The most diligent Party shall notify the other Party of the name of an arbitrator; within 40 days after this notification, the second Party shall in its turn appoint an arbitrator. Within 60 days of the appointment of the second arbitrator, the two Parties shall appoint the third arbitrator, who shall not be a citizen of either of the two Parties, nor have the same nationality as either of the first two arbitrators. The Commission shall be chaired by the third arbitrator.

Should the second arbitrator not be appointed within the time indicated, or should both Parties fail to agree within the time indicated on the appointment of the third arbitrator, the missing arbitrator shall then be appointed, at the request of either of the two Parties, by the President of the International Chamber of Commerce in Geneva.

The Arbitration Commission shall determine the place where it shall meet, and shall set its own rules of procedure.

The decision of the Arbitration Commission shall be made by a majority of its members, who may not abstain from voting.

b) Should the dispute arise between more than two Parties, it shall be submitted to the arbitration of the President of the International Chamber of Commerce in Geneva.

c) Any State party to this Convention but not Party to the dispute may intervene in the proceedings, subject to the agreement of the Arbitration Commission or that of the President of the International Chamber of Commerce in Geneva--depending on whether the dispute opposes two Parties or more than two Parties--as long as the Arbitration Commission or the President of the International Chamber of Commerce in Geneva agrees that such State has a substantial interest in the settlement of the dispute.

The decision shall be final and binding for all Parties to the dispute, which shall comply with it immediately. Should a contestation arise as to the scope of the decision, the Arbitration Commission in the case of a dispute between two Parties, and the President of the International Chamber of Commerce in Geneva in the case of a dispute between more than two parties, shall interpret the decision at the request of the Parties to the dispute.

d) In the case of a dispute between two Parties, both Parties shall make equal contributions to the payment of the fees of the three arbitrators and to the expenses of the Arbitration Commission. The Arbitration Commission shall provide a final statement of all expenses. The determination of the arbitrators' fees is subject to the approval of both Parties.

In the case of a dispute between more than two Parties, the Parties to the dispute shall make equal contributions to the payment of the fee and expenses of the President of the International Chamber of Commerce in Geneva, under conditions similar to those applying in the case of a dispute between two Parties.

9294
CSO: 8119/0603 END

END OF
FICHE
DATE FILMED

15 FEB 83